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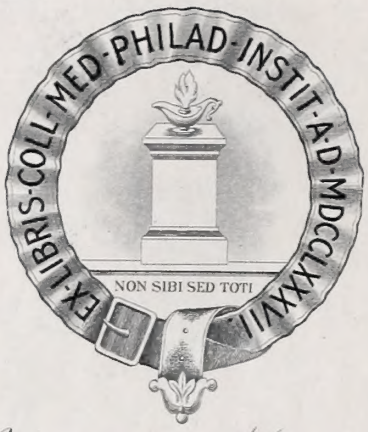

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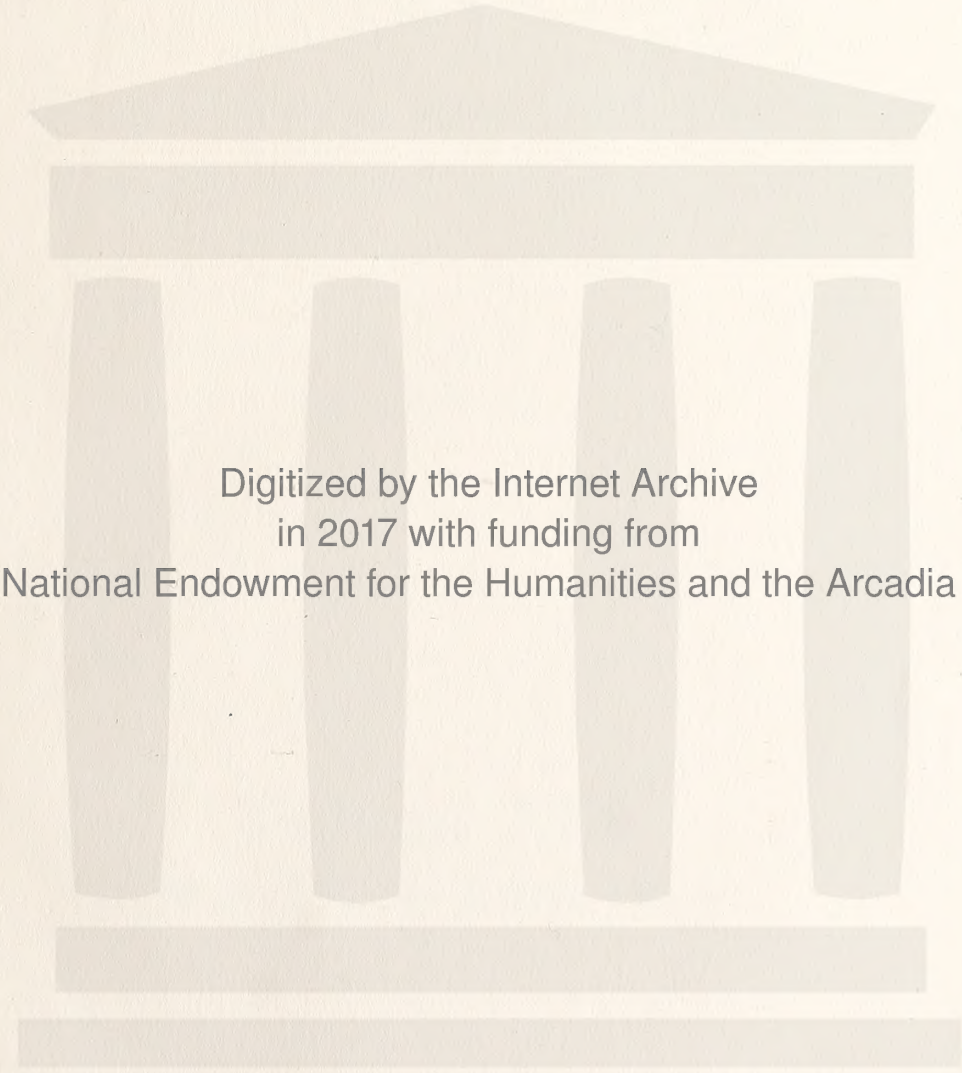

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(E), Editorial; (M), Miscellaneous; (N), News; (O), Original Articles; (MR), Medicinal Remedies; (SN), Society News.

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DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH OF TEXAS

All Is Ready for the Fort Worth Meeting, so we are told by the chairman of the Arrangement Committee. Entertainment features announced in the April JOURNAL will be carried out with elaboration. There has been a change in the location of one of the ladies receptions, made necessary by circumstances over which no one had control. There have been a few minor changes made in the scientific program. These are not of such consequence as to require consideration in detail.

Dr. W. B. Thorning, secretary of the Board of Councilors, will deliver an address on "Obligations of the Laity to Scientific Medicine," at the general session Thursday afternoon, at the time new officers are presented. An effort will be made to secure the attendance of at least representative and influential laymen, that Dr. Thorning's message may be put over where it belongs. This change was made following request of the South Texas District Medical Society, before which organization the address was delivered a few days ago, Dr. Thorning very modestly keeping in the background. We have this address before us, and it is well worthy of a prominent place on the program.

The details of seating, lighting and darkening the several halls in the Texas Hotel, have been satisfactorily arranged. As might have been imagined, it was necessary to extemporize somewhat in attempting to accommodate so many sections at one time in a single building constructed for hotel purposes only. It was feared for a time that the crowding would be such as to interfere with the comfort of those attending the meetings of certain of the sections. It is not now thought that this will be so. The committee in charge has exercised considerable ingenuity in arranging these halls, and there need be no fear of confusion or discomfort.

It is quite likely that the Health Department will put on a public health show Monday evening, the 7th. There will be a health conference on that day, and several other organizations will be in session at the same time. Usually these several organizations join in a banquet at night, and a discussion of some one or more subjects of mutual interest. It is probable that this function will be abandoned and these organizations join in requesting State Health Officer Dr. Beazley to put on the health show. Dr. Beazley has several very good films bearing on health problems, which will be worth while. The public will be invited, of course.

It probably has been noticed that one of the sections has included in its program synopses of a number of papers that are to be read before the section. Another of the sections had endeavored to gather synopses but gave it up as a hopeless job. The program reprints will contain all synopses received before they go to press. It is felt that the additional expense of printing these synopses will be justified. The synopses should show at least the purposes of the papers, and visitors can attend the sections or avoid them, in accordance with their several desires.

Final arrangements have been made for reporting the discussions of the scientific sections. Expert court stenographers have been employed for this purpose. This is an expensive change in policy, and it is to be hoped that it will be fully taken advantage of. We may say in advance, that the discussions as reported by the stenographers, will be referred to the discussors for editing before they are printed.

There are 1600 badges on the way. From the number of hotel reservations made this is going to prove to be none too many. Indeed, the State Secretary is making apologies in advance for not buying more. He bought 200 more than ever before, and his alibi is that this should have been sufficient for the occasion, allowing for normal growth. We dread the cussing but hope we do run out.

Secretaries of county societies have the certificates for the purchase of round-trip railway tickets. Members should secure these without delay. Secretaries may run out of certificates and have to order new supplies from the central office. It may be too late to do that if there is much delay.

The program for the clinics to be held on Monday, preceding the opening session, has been well worked out. Members will receive circulars relative thereto in advance of their departure for the meeting. It is hoped that as many as can afford to do so will avail themselves of this meeting of Monday, although it is not a part of our regular session. However, we trust that the attendance on the meetings of this day will not detract from the attendance on the balance of the days of the session.

Information bureaus will be located in each depot, and an effort will be made to furnish transportation for all visitors, from depots to hotels. Two hundred and fifty automobiles will be available for transportation of visitors during the meeting. They will be marked "State Medical Association."

Many of those who attend the session will no doubt be members of the Shrine. We are in receipt of the following letter, which will interest these:

"I understand that the State Medical Association is to meet in Fort Worth, May 8, 9 and 10. "Among your visitors will be quite a number of Shriners and I wish to extend to them, through you, a very cordial and urgent invitation to remain over for our Spring Ceremonial, which will be held May 11th."—H. T. PANGBURN, Potentate.

There Is But One Medical Profession.—There are those who would have it otherwise. There is more latitude and more opportunity for the ignorant and vicious in a medical profession divided against itself. But there have always been quacks and there probably always will be quacks. The cultist is a different animal altogether. His intentions may be of the best. The quack deceives with malice aforethought and for the purpose of profit. We saw a moving picture show once from some distance away, and at an acute angle. King Albert of Belgium, tall enough at best, was under these circumstances elongated to a ridiculous degree, but we knew better, of course. Facts observed from such an angle may be distorted, also, and all of us are not sufficiently well informed or endowed intellectually so as to overcome the handicap of position. As long as this is true, there will be sects and cults in medicine, religion and other affairs of life which permit of speculation. There is no quarrel with the cultist. We merely want him to look at the thing in the right way and be honest about it. With the quack we are at war and always will be, not because we care anything about him personally but because he is an unwholesome product and a disgusting thing to contemplate. He is dangerous, also, but that is not our affair, particularly.

The history of cults is that they begin with a group of peculiar ideas, not unusually in reaction to some abuse or misuse by the regular profession of some idea accepted as truth. These peculiar views are elaborated, and much clinical evidence is brought to bear in their support, a thing perfectly feasible, no matter how peculiar the idea. Clinical results are that way. In the course of time, experience gradually leads the intelligent members of the sects into the straight and narrow path, and they are sectarian then only in name, if at all. As soon as this reverse of position takes place in one cult, another arises to take its place. There are people

who demand this sort of pabulum and this sort of service, and the people must be served.

The doctor who practices sectarian medicine takes care of those people coming within his sphere of influence in two ways, either by sensible talk or the "bread pill" route. This system is effective with a certain proportion of patients, but there are those who will be satisfied with nothing less than the limit. These go after such ridiculous theories as those advanced by the christian scientists, chiropractors, *et al.* They learn the truth eventually, but it take time, and in the course of time many things can happen—life, suffering, death, and so on. The leader of a cult in the religious world taught that those who believed in him implicitly would have eternal life. Eternal life happens to be a thing involving considerable time. When his followers, through the death of some of their most saintly members, began to conclude that there was something wrong with the teachings of their beloved sect, the leader had served his own purposes and left his following with the bag to hold. Unless we bring reason and cold, scientific fact to our assistance in such matters as these, we are lost.

Recently a correspondent of Dr. Frank Crane (not medical), whose writings are syndicated for the lay press, complained that lack of diploma prevented a quack who had cured him, the correspondent, of what a regular physician had diagnosed as incurable cancer, from being recognized professonally. Dr. Crane, commenting, said:

"This letter calls attention to a point that is not generally clear. It is quite the fashion to abuse the medical profession. Regular doctors sometimes fail and the patient is cured by some irregular practitioner, by some faith cure or fad, or by some old woman. This is hailed as a triumphant proof that the medical profession is a fraud.

"It is bad reasoning, because it is based upon a particular instance.

"The medical profession makes no claim to heal all diseases, nor, in fact, to heal any disease at all. All it claims is to bring as near as may be the sum total of intelligent investigation, experience, and skill toward assisting nature's recuperative power. That is all any doctor can do, and that is all any honest doctor says he can do.

"Nature itself does the curing. The doctor helps. And as a rule a well-educated and trained doctor helps more than a quack, for the simple reason that he is better educated, has had wider observation, and is more responsible."

The Legislature in debating the bill carrying amendments to the Medical Practice Act, recently passed, accepted the fact that the medical profession was divided into so-called schools, as a matter of course and to be expected. The claim of the chiropractor that he did not believe in certain scientific principles and demonstrated fact, was taken by many legislators as good argument against requiring them to know these things, the which those who desired to practice under the Medical Practice Act were required to know. When the plumbing bill was up for consideration, it never occurred to anybody that there might be plumbers who did not believe that bad plumbing would injure the health of the people, and for that reason ask for a special plumbing law. There were those who claimed exemption from the numerous revenue-raising bills introduced, but it was not on the ground that they did not believe in such methods of raising money for the support of government. There is no more reason for exempting the cultist from the Medical Practice Act than there is for exempting any class from the operations of the laws in which they do not believe. Facts are facts and truth will prevail. If it is purely a matter of difference of opinion about the theory of disease, or what will cure it, the problem should be threshed out within the medical profession and the laws governing the practice of medicine changed from time to time as the concensus of opinion warrants. We have a fair and just law under which this may well be done, and we call upon all and sundry to rally to its standard. Sixteen years ago, when this law was enacted, the following words were spoken,[1] and they are true today, as they were then:

"There is one medical profession and only one: It recognizes all beneficent principles, ignores all dogmas, refuses all limitations, and leaves to the physician the application of his judgment as to diagnosis, the selection of remedies and methods for their employment.

"Planted upon this ample foundation the organized profession claims preoccupancy of the medical field,

1. Dr. Chas. M. Rosser, Dallas, in an address on "Unification," delivered at the Fourteenth Annual Banquet of the Kansas City Academy of Medicine, January 10, 1907, and published in the *Kansas City Medical Index-Lancet* for February, 1907.

and invites to its honorable friendship and alliance such sincere and intelligent men, as having educated themselves in line with the physician's needs, desire to devote their energies and talents, giving at all times the best services of which they are capable."

What Will the Chiropractor Do Now?—This question has been propounded variously since the Medical Practice Act was so amended as to give promise of effectiveness. The injunction feature of the law has incurred the fear of at least the most timid of the chiropractors, and those who have had small experience in law-breaking. The natural inclination is to feel a sympathy for these people. They have many of them been lifted from obscurity and perhaps poverty, to a place of prominence (at least newspaper) and comparative affluence. They are but following in the footsteps of cults that have gone before, and if left alone would eventually become practitioners of medicine, if somewhat restricted in the extent of their education. What to do with them is really a problem. That they had no right whatsoever to enter the practice of medicine in this State, and that they have been law-evaders from the beginning, does not occur to us unless we sit down and think about it. They hold a sort of "squatters claim" on the right to practice medicine. Possession is said to be nine points of the law, and whether that is true or not, the average jury, and even courts, sometimes so consider it.

Very naturally, the first effort of the chiropractor is to secure for himself legal authority to continue in his practice. It is worth a lot to him to be allowed to do this, and we are informed that he is willing to pay the price. He has been at work for many months, anticipating the perfection of the Medical Practice Act. He did not secure the support he had formerly expected in time to secure the passage of a chiropractic bill in the regular session of the present Legislature. He then adopted the tactics of the optometrists, who secured the passage of a law but a degree less ridiculous than his own. After years of fruitless effort the optometrists plead jeopardy to a vested interest which did not exist, because of a court decision which they were able by the aid of certain newspapers, to make it appear would put them out of business if their business were not legalized. The chiropractors are now pleading that the Medical Practice Act will put them out of business unless they secure a law of their own. There are many legislators who fall for this sort of argument. We are told that the eminent lawyer, so highly versed in politics, who put the optometry law over has been employed to do the same thing for chiropractic. We do not know the details of the employment, or whether it is a fact, but such tactics would seem to be the most promising that could be adopted. However, the subject of medical legislation, in some of its phases, must be submitted to the Legislature by the Governor before such a law may properly be introduced. It is not believed that the Governor will permit this. He could hardly do so and be consistent. It is clear that if the Medical Practice Act is based on proper principles, there can be no such thing as a chiropractic practice act. There is merely this danger, that the Governor in his desire to revamp certain of the public health laws, will let down the bars. Even so, it is not believed that the chiropractors will succeed at this time. By the time the next Legislature convenes the educational campaign recently begun will probably have put the chiropractor, as such, hopelessly out of the running. In the meantime, what will he do?

No doubt, he will organize to fight the law. This has been done elsewhere. A letter from "The Universal Chiropractors Association, B. J. Palmer, D. C., Ph. C., Davenport, Iowa, Secretary," referring to a more or less similar situation in Ohio, may be illuminating in this respect. We quote the following (leaving out those paragraphs not pertinent to this discussion; capitals as in the original):

"By the time this letter reaches you there will be 250 under arrest and, more than likely, 75 in jail.

"Ohio stood loyally by when others needed a friend. OTHER STATES should stand loyally by OHIO now.

"A jail fund is needed. The U. C. A. will pay the fine to each boy who sticks his full time in jail. But, he needs a fund to pay his office rent, and keep his office open, so that when he gets out HE CAN BEGIN AGAIN IN THE SAME OFFICE. Each boy will be given $100 per month that he stays in jail from this fund.

"The campaign is on in Ohio. Let us show the chiropractors of Ohio that the profession is behind them. If they go to JAIL we can GO INTO OUR POCKETS.

"Send $10.00 to the U. C. A. JAIL FUND."

We presume the U. C. A. is open to chiropractors in Texas, although it is possible that the Texas situation will develop so strongly that they will be afraid of it.

A circular letter sent out by the Dallas Chiropractic College refers to this situation, and to the U. C. A., in the following language:

"We presume you have been watching the trend of events, and know of the passage of the Medical Practice Act, which is intended to oust Chiropractor.

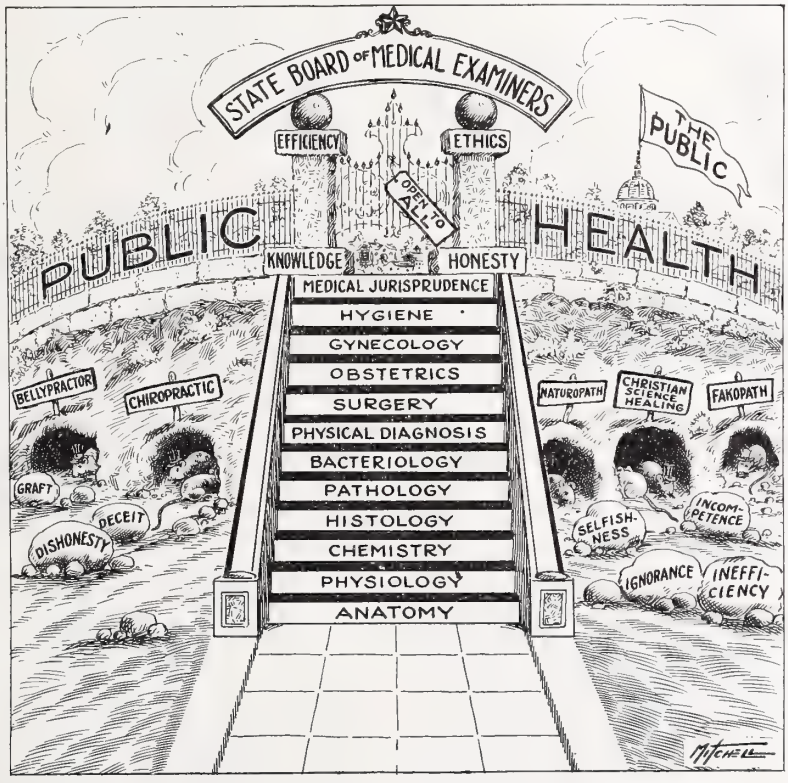
"You probably are wondering what effect it will have on the DALLAS CHIROPRACTIC COLLEGE. It will in no way affect the D. C. C. *as it is chartered under the Texas law* (italics ours), but it will have a tendency to discourage students from enroll-

ing, however, by the time they graduate this law will be successfully disposed of.

"The Universal Chiropractor's Association is coming to Texas, and there is no doubt that Chiropractic will win out as it has in more than half of the states of the Union. The Chiropractors are not closing their offices; instead, this will only give them an opportunity to get the merits of Chiropractic before the public. So do not let this discourage you from enrolling, but determine to enter at once."

Quite probably there will be those who will continue to violate the law, and quite clearly this will be a feasible project for awhile. Whether its feasibility will extend beyond the limited time anticipated by the law remains to be seen.

There is a brighter side to the question, which we may perhaps refer to briefly. A chiropractic called upon us for advice in this regard. He stated that he had purchased a home since entering practice and had about half paid for it. He had a wife and several children. He wanted to do the right thing, and claimed to to have been doing his best to practice honest medicine (and we have reason to believe that he has), even though he put his principal faith in chiropractic. He seriously discussed with us the feasibility of taking up the study of medicine under these conditions, quite frankly stating his intentions to get by with the least possible effort. He was assured that the Board of Medical Examiners would do all that it could legally and in honor to take care of him. It is to be hoped that there are other chiropractors like this one.



ENTER BY THE GATE, GENTLEMEN!

Several letters have been received by the Secretary of the State Board of Medical Examiners, from chiropractors who have not graduated in medicine and who have not, for that reason, been able to comply with the present law, making inquiries as to the minimum requirements and stating that they believe in the principles of the law but are themselves unfortunately caught in the swing. One of these stated that while he was "a chiropractor from head to foot," he believed the Medical Practice Act to be "fair to the public and the serious minded practitioner." He desired then to know the requirements a chiropractor must meet in order to take the State Board, "and when will the examination next be held, and where?"

In Michigan the state chiropractors association is endeavoring to secure the passage of a chiropractic bill, despite the fact that there is a drugless cult law which requires a reasonable examination of those who would practice that cult, but not such an examination, by any means, as that required of the regular practitioner of medicine. It seems that there is a chiropractic college in Detroit, which is making an effort to bring its curriculum up to at least the minimum requirements of scientific medicine, and which now gives an honest-to-goodness course of twenty-four months. The Dean of this institution complains, in a letter to a state senator, that the chiropractors association is fighting his school because it is preparing chiropractors to take the drugless cult examination. The letter referred to is interesting throughout, but it is too long to quote here. We will quote certain of the paragraphs, however. No effort is being made to correlate, or by separating them change in any particular the purport of the letter:

"If this college had been conducted as a clearing house for potential law-breakers, then we would have been received into the loving arms of our friends; but as it is, we are anathema.

"We at Alma are not opposed to a Chiropractic law in itself; but we do want to see the men who seek a law worthy of it. On the other hand, while we do not oppose a chiropractic law, yet the need for same at the present time is not apparent. What fairer conditions could prevail than those at present in force? Only men of inferior training whose wishbones are where their backbones ought to be, can object to it.

"Such men claim that the present examination was never meant to be passed. How can they say that when they have never tried to pass it? As a matter of fact, one of our students passed the examination last June and half a dozen more will be ready to try it this year.

"The records of the State Board of Registration show that during the past ten years 95 per cent of the chiropractic candidates lacked the preliminary educational requirements and, therefore, were disqualified at the start. If the disqualified applicant had really wanted to play the game, in less than a couple of years he could have gotten his credentials from the State Board of Preliminary Examiners and taken his licensing examination. Instead of that, what did he do? Opened an office and collected money illegally under the Michigan statutes and whined about the dastardly policies of the A. M. A. and the perfidies of a hardened sinner named Harrison.

* * * * *

"Why do they wait and watch and pay? Because they have learned from experience that it is a good thing to follow these thinkers and doers; and as it is the privilege of all good governments to better the conditions of the people whose servants they are—they pay. And because they have paid, Death pauses awhile beside the bedside of the young mother and then passes on; his old allies are his slaves no longer; and the eyes of the little baby will not be blinded now because of ignorance and all because the governments waited and watched and paid.

"On the right of the picture a man stands alone. His face is not alight with the wisdom of the ages nor with the vision of the Engineer. In his eyes is the greed of gold. He stands alone and talks and sneers and talks. Twenty years ago he attended a country school as far as the sixth grade; further education he has had none, except perchance a diploma issued by some man as ignorant as himself—only a bigger knave. Scowling at the group across the picture he shouts 'you with all your accomplishments; you with all your triumphs over nature; you men who have DONE things—you are all wrong; while I who have never done anything; I who have never followed the gleam of service unless it had the glint of gold; I who am a self-confessed law-breaker—I am right.'

"And the governments of the world heed him not, but keep their pose of waiting, watching and paying—all save one, who stoops to listen and seems half inclined to believe."

Recently a Texas doctor wrote a letter to a number of the leading chiropractic teaching institutions in the United States, framed in the most illiterate language, and posing as a most unlearned individual, with no qualifications whatsoever, asking for the terms upon which the writer could be made into a chiropractic physician. Without exception these colleges offered to do the job. It is encouraging to know that there are chiropractic institutions which really desire to prepare their graduates to meet the responsibilities of the practice of medicine, both from the standpoint of the individual patient and the public health. It is to this class of institutions, which are not the most noted of the lot, incidentally, that the hope of the situation lies.

Our advice to the chiropractor who has sufficient preliminary education, or can secure such education, is that he enter a medical college of some description and take such a course in medicine as will enable him to stand the very reasonable examinations required by our State Board of Medical Examiners, and then practice chiropractic or whatever he please. Those who cannot do this, we would advise to return to their original vocations, where they may labor with a clear conscience, assuring them that in the long run they will be the gainers. It is no small thing to assume the responsibility for human life, and it will avail little to the individual with a conscience if in after years he realizes the harm he has done, to argue that he did the best he knew. An officer so ignorant of his profession as to jeopardize the lives of his men when committed to action, would not for a moment be permitted to hold commission in the army.

Correcting the Legislative Record.—While we are on the subject, perhaps we should call attention in this public manner, to an error which occurred in the March JOURNAL, in publishing the debate on the Medical Practice Act bill which occurred in the House. On page 569, a controversy between Mr. Lewis, who was speaking against the bill, and Representatives Baldwin and Stewart (of Reeves), was carried over into the first column. Mr. Lewis closed his remarks with the fourth full paragraph in that column, and Mr. Melson, one of the principal speakers for our bill, began his address with the next paragraph. The printers simply failed to include the name. It is a most regrettable incident, not only because Mr. Melson is not credited with the sentiment which followed, but because Mr. Lewis is made to appear to speak on both sides of the question.

Further, the Bexar County Medical Society calls attention to the fact that the roll calls in the House show Mr. Hull, of Bexar, as absent when the vote occurred on the several controversial points, and present only on the vote for engrossment of the bill. It is feared this will lead to the impression that Mr. Hull was not in favor of this measure. Mr. Hull states unequivocably that he was in favor of the bill and against all the amendments, but was prevented from being present because of certain demands made

upon him just at that time by a committee of which he was the chairman. We are pleased to make this correction. We know it to be a fact that Mr. Hull was for the bill, on all counts.

We regret that we are again forced to defer publication of the Medical Practice Act as amended during the regular session of the present Legislature. We have not been able to secure a certified, revised copy. Incidentally, the present number of the JOURNAL will be so crowded as to make it out of the question to take up the necessary space. This law, together with comments on its legislative journey, will appear in a later number. The report of the Council on Legislation and Public Instruction will give a full account of the various medical and public health laws introduced, and what became of them. This report will be published, of course, in the June number.

The Official Route to San Francisco has been selected by the Transportation Committee. It is reasonable to believe that the House of Delegates will approve the recommendations of the committee. With the understanding that this approval must be had, we are authorized to give out the information at this time.

The committee has selected the Fort Worth and Denver and Santa Fe, as the official route, the return trip to be in accordance with the predilection of the individual. It is planned to assemble the party in Fort Worth, leaving by way of the Fort Worth and Denver at 9:45 a. m., Wednesday, June 20. This hour will permit arrival in Fort Worth on the morning trains of most of the roads. Our sleepers will be set out at Amarillo, at 9:00 p. m., and picked up at 6:20 a. m. the next day. The party will arrive at Grand Canyon at 8:20 a. m., Friday, and spend the day there. This will give ample time for viewing the beauties of this natural scenic wonder. Departure will be at 7:45 p. m. Los Angeles will be reached at 9:15, Saturday, June 23. At Los Angeles the party will split, if it chooses. Several routes into San Francisco are available from this point, reaching San Francisco on any of them early Monday morning, the day on which the House of Delegates will hold its first session. One route leads through the center of the state, and another goes by way of the coast, much of the time in plain view of the ocean. Those who choose to do so may make the remainder of the trip by water. A boat of the most luxurious type will leave Los Angeles harbor at 4:00 p. m., Sunday. The delay in Los Angeles will give members of the party an opportunity to see the moving picture communities and other points of interest in and about this beautiful city.

The fares will be the usual summer rates, which are extremely moderate and will permit of a wide variety of return trips, and are good for three months. Any additional information concerning the fare and the various routings on the return trip, may be had by applying to local ticket agents or by writing to Mr. D. E. Nelson, T. P. A., 503 Denver-Record Building, Fort Worth. It is extremely important that those who contemplate making this trip get in touch with the railway people without delay, in order that the necessary sleeping car accommodations may be secured. It will be recognized that the movement to San Francisco at this time, not only for the accommodation of those who are attending the annual session of the great American Medical Association, but for those who are attending numerous other organizations which will be holding conventions in California about the same time, means a heavy draft on the transportation facilities of the whole country. These transcontinental trips are important affairs in the railroad world. The Fort Worth and Denver and Santa Fe must have an idea what we require by way of Pullman cars well in advance.

The following side trips from San Francisco have been called to our attention, and they should be taken into consideration by those who expect to make the trip:

A three-weeks' trip to Honolulu on a special boat, touching all principal ports, including the leper colony, and return to San Francisco.

A trip up the western coast to Alaska and return. Those desiring to do so may leave the boat at Vancouver and return east over the Canadian Pacific, or at Seattle and return east over the Great Northern, or at Portland and then east over any available line. Returning to San Francisco, those who take this coast trip may return east by way of Los Angeles or the Panama Canal.

An Oriental tour beginning at San Francisco, and leaving that city a day or two after the close of the annual session. Such tours will include Japan, China and the Philippine Islands and return to San Francisco, or a return by way of the Suez Canal and Europe.

A trip to Honolulu, with six days in that city and on the Island of Oahu, and two days in Hilo and the Kilauea National Park, with a visit by day and by night to the active volcano of Kilauea.

An Alaskan tour, embracing a twenty-four-day cruise. Stops will be made at Ketchikan, Wrangell, Petersburg, Taku Glacier and Juneau. At Skagway a railroad trip to Bennett Station will be begun; returning, the boat will proceed to Sitka, from which place six days will be spent in the inside passage en route to Seattle. From Seattle a four-days' trip to Rainier National Park will be made.

A tour which includes visits to Yellowstone, Glacier and Rainier national parks.

A comprehensive tour that will take four weeks for sightseeing in the Canadian Rockies.

Inquiries concerning transportation from eastern ports to San Francisco by way of the Panama Canal should be referred to steamship offices. It will be possible for those who wish to go to San Francisco by way of the Panama Canal to return by railroad.

For further information regarding side trips, address Chairman, Committee of Arrangements, 806 Balboa Building, San Francisco.

The following notice in regard to the clothing most desirable to be worn in California at this time of the year, has been sent out by Dr. W. E. Musgrave, chairman of the local Committee on Arrangements:

We are receiving a number of inquiries regarding the climate and character of clothing to be worn at the time of the meeting of the American Medical Association here the last week in June. At this time of the year it is likely that there will be a certain amount of wind, some fog, and the evenings will be quite chilly. Rain is not expected at this time of year, and the days will be pleasant and delightful.

Persons coming to the annual meeting should bring overcoats and evening wraps; furs are worn by San Francisco ladies in the evening at this time of year. In the southern part of the state and the central valleys the climate will be very much warmer, corresponding somewhat to the summer climate in the Eastern States. In the mountain districts and the mountain resorts the climate will more nearly approach that of San Francisco. Persons who expect to travel much in this state will be more comfortable with the ordinary weights of underclothing and with overcoats and wraps to meet the varying climates in different parts of the state.

The following very pleasing letter of invitation has been issued by the Committee of Arrangements:

Please consider this a fraternal and personal letter from the members of the California Committee of the A. M. A. Convention to you and every member of your society. It is a special invitation to you to attend the 74th Annual Convention of the A. M. A. in San Francisco, June 25 to 29, 1923.

All of the 4,000 members of the California Medical Association are hosts at this year's meeting. We are making plans for a great meeting, with many special features, and we want you to come.

The interest and co-operation of our leading civic, commercial, transportation, hotel, tourist and other agencies has been secured to help visitors with any plans or problems they may have regarding the trip.

All the scientific meetings, all exihibits, the House of Delegates, and, in fact, all important activities will be held in one building—the Civic Auditorium—close to the commercial and hotel section of the city.

Many social, sight-seeing trips and tours are being arranged to suit the convenience of visiting Fellows and their friends.

Monday and Tuesday, June 25 and 26, will be given over to a series of nearly 100 Diagnostic Clinics. These will be given in the accredited hospitals of San Francisco and Oakland by both visiting and California Fellows. They will cover many subjects.

Monday and Tuesday, July 2 and 3, Post-Convention Diagnostic Clinics will be held in many places in the State, under the auspices of one of the forty-one county medical societies or hospitals accredited by the Council on Medical Education and Hospitals of the A. M. A.

Please ask any of your members who contemplate coming to the convention to make any request for service of any kind of our offices. Address Dr. W. E. Musgrave, Chairman California Committee, Convention Headquarters, 806-809 Balboa Building, San Francisco. Watch the columns of *The Journal of the American Medical Association* for convention news items.

A Revolution in the A. M. A. is threatened, according to the Wheeling (W. Va.) *Register*, a lay publication, by resolutions adopted by the Washington County (Ohio) Medical Society. This newspaper, apparently with great relish, stated that the resolutions declared the American Medical Association to be undemocratic and out of step with the times. It is further stated that a strong delegation from Mariette (Ohio), will conduct a fight in the annual session of the Ohio State Association in support of this campaign. The resolutions follow:

"Resolved by the Washington County (Ohio) Medical Association this 7th day of February, 1923, that, through its delegates to the Ohio State Medical Association, it respectfully petitions that body to instruct its delegates to the meeting of the American Medical Association for the session of 1923, to present amendments to the Constitution and By-Laws of the American Medical Association which shall embody provision as follows:

"First: Amendments to the Constitution by which—

"(1) The declared purpose of the Association shall embrace a declaration that it stands for educational, social, civic and economic interest of the medical profession.

"(2) The restoration of the original power of the House of Delegates to embrace its right to legislate, not only on general affairs of the Association but especially upon questions of polity, to appropriate money for carrying out the same, and to have such legislation carried into effect without being subjected to adverse action by any board, committee, officer, or attache of the Association.

"Second: Amendments to the By-Laws by which—

"(1) There shall be *ad-interim* session of the House of Delegates, to be known as the semi-annual session, to be held at the headuarters of the Association in Chicago.

"(2) There shall be specific definition and limitation of the power of the Board of Trustees to their legitimate function as custodian of the assets of the Association.

"(3) There shall be specific definition and limitation of the power of the General Manager to embrace the function of (*a*) the publisher of periodicals and books owned and published by the Association; (*b*) supervisor of the buildings and properties, other than securities, belonging to the Association; (*c*) director, under the Board of Trustees, of all business affairs connected with the annual meetings of the Association.

"(4) There shall be an Editor-in-Chief who shall be (*a*) the Editor of *The Journal of the American Medical Association* whose function shall be especially defined and limited to (*b*) the literary revision of all papers and discussion certified for publication by the sections of the Association; (*c*) the review and acceptance of original contributions not offered through the section; (*d*) the editorial support of all matters of polity endorsed either by the House of Delegates or by the Council on Polity; (*e*) and such other duties as usually pertains to the duties of editors, including (*f*) the selection and appointment

of the editors of other periodicals owned and published by the Association.

"(5) There shall be a Council on Polity, which shall be one of the standing committees of the Association, whose duty shall be (*a*) to enforce all matters of polity adopted by the House of Delegates, (*b*) to consider and adopt, *ab-initio*, all questions of polity affecting the medical profession that may arise when the House of Delegates is not in session; (*c*) to transmit the conclusions of the House of delegates and its own conclusions on matter of polity to the Editor-in-Chief, upon whom such conclusions shall be mandatory.

"(6) The declaration reaffirming that *The Journal of the American Medical Association* is the property of the Association and that, as such, it shall at all times be open for the respectful and constructive discussion of the affairs of the Association by its members.

"Resolved, That a copy of these resolutions with request for publication be sent to the *Ohio State Medical Journal* and *The Journal of the American Medical Association.*

Investigation discloses that out of thirty-three members of the society, eight were present at the time the resolutions were adopted; all members received copies of these resolutions a week prior to the meeting at which they were adopted, and a full discussion of the resolutions was had during a meeting two weeks before, at which meeting there was an attendance of 15.

Another set of resolutions, promulgated by the erstwhile so-called and self-constituted "Medical Advisory Committee," and coming from Ohio, will be recalled. These resolutions recited a number of fearful conditions existing in the American Medical Association, and called upon the rank and file of the great organization to rise up and smite, hip and thigh, those responsible therefor, apparently the Board of Trustees and its much maligned General Manager, Dr. Simmons. At that time we gave considerable space to an editorial discussion of the problems apparently involved, feeling that there might be those who would be misled. We hardly feel that we should take the space to do this at this time. The resolutions are just as misleading as those of a year ago, which, it will be remembered, lead to a complete fizzle at St. Louis.

Our readers will understand that we are in no sense inclined to agree that medicine should be socialized and that we do not hesitate to condemn anything of the sort that comes to our notice. We have not always been in full accord with the management of the American Medical Association and do not expect to be hereafter in full accord therewith, no matter whether the same management remains in charge or a new one takes over the rather heavy responsibilities involved. The truth of the matter is, the work of the American Medical Association is so broad and so long and so deep and so far-reaching, that differences of opinion will inevitably arise among earnest people who have its success at heart. It is foolish and puerile to be picking flaws and continually nagging at those who are trying to accomplish something. This thing has been going on for many years, to our certain knowledge. We have ourselves tried to get excited about it, and have felt at times that perhaps we ought to get on Dr. Simmons, and quarrel a little bit with the Board of Trustees, but invariably our investigations have led us to conclude that there was nothing to fuss about. On the contrary, we have uniformly concluded that there was much room for praise, instead.

It is a bit unfortunate that the ranks of the medical profession must be made up of all types of men, just as are the ranks of other professions and other groups. We must contend with the radicals, the reactionaries, and those in between and inclining very much one way or the other, and the results of our efforts are usually a compromise, leaning, as a general thing, we are happy to say, toward conservatism and gradual evolution. Having the bolshevist with us always, as we are said to have the poor and the sore thumb, perhaps we should arrange to take care of him and his vagaries. Still, it is exasperating to have to annually confront such nonsense as that here referred to.

It seems that more permanency than heretofore and more promise of continuity of effort, is offered this movement by a publication known as *The American Medical Press,* a journal devoted to the "political and economic interests of the medical and allied professions and the people whom they serve." We have been favored(?) with two recent numbers of this periodical, both of which are indiscriminately filled with unreasonable and unreasoning criticism of the American Medical Association and advertising that would not be tolerated in what we would consider an ethical medical journal. We have often wondered who was putting up the money necessary to circularize the profession so generously with reprints from the *Illinois Medical Journal,* and original ravings of certain other A. M. A. haters. Just recently we have received from three different sources, a reprint of twenty pages of unkind criticism of the American Medical Association as at present constituted, for the most part unsupported by fact. Evidently it is planned to stop this drain on the pocket books of certain individuals and turn the tide the other

way. A medical journal appealing to the irreconcilable will always receive the support of that class, and it is rather a numerous one, and manufacturers of pharmaceuticals outlawed by the ethical medical profession, will find such publications a profitable medium for advertising propaganda.

Not to prolong the argument, we are free to say that the delegation usually sent to the annual sessions of the American Medical Association will know what to do when the issues pointed out in the resolutions under discussion, are brought up for consideration, but if there is one way to put the cause of these people out of bounds with our delegation the methods adopted by these people is just that. We are not any too conservative, as a rule, and certainly may not be considered reactionary, but there is such a thing as fair play, and reason, and it is not to be found in paying quantities in this particular bit of precious propaganda.

Our Summer Clinics, as announced last month, will be held in Baylor University, June 4-16, and in the University of Texas, June 11-23, all dates inclusive. As is well known, these clinics have been instituted upon the request of the State Medical Association, and are conducted more or less under the supervision of the Board of Councilors and the Committee on Medical Education. Last year these courses covered the working days of one week. This year they will include the working days of two weeks. Both institutions were crowded to capacity last time, and arrangements for increased facilities have been made. It is anticipated that the capacity has been doubled, both in Baylor and the University of Texas. Those who may be interested are urged to make arrangements without delay. Dr. W. H. Moursund is Dean of Baylor University, Dallas, and Dr. Wm. H. Keiller is Dean of the Medical Branch of the University of Texas, Galveston. We have not received the schedule of clinics from Galveston, but we are assured by Dean Keiller that it will be practical and as interesting as it is possible to make such a course. Perhaps the following paragraph from his letter will be sufficient:

"In response to the desires of the majority of those attending this course last year, the course for medical practitioners will be expanded to two weeks instead of one week, as formerly, and will be held during the second and third weeks of June. The morning will be occupied by clinics and ward rounds in surgery, medicine, obstetrics, gynecology, pediatrics, dermatology and surgery, and in neurology and psychiatry according to the cases available, special attention being paid to diagnosis. A clinic in ophthalmolcgy, otology and laryngology, will be held from 2-3 p. m., daily. The afternoons from 3-5, will be occupied by lectures, and should a sufficient number desire a series of lectures on any particular subject, these will be arranged for. It is planned that some of these lectures and laboratory demonstrations shall be of general interest and that others shall be arranged on special subjects, as need may arise. A more detailed program will be published later, in the JOURNAL.

The following is the Baylor program:

June 4th, 8:30-10:00 a. m., Medical Clinic, Drs. R. W. Baird and R. B. McBride; 10:00-12:00 a. m., Pediatrics Clinic, Drs. H. L. Moore and M. A. Hopkins; 2:00-4:00 p. m., Clinical-Pharmacological Conference; "Diseases of the Heart," Drs. C. M. Grigsby and B. F. Hameleton.

June 5th, 8:30-10:00 a. m., Medical Clinic, Dr. C. M. Grigsby; 10:00-12:00 a. m., Medical Roentgenology, Dr. Chas. Martin; 2:00-4:00 p. m., Clinical-Physiological Conference; "Nephritis," Drs. R. W. Baird and F. T. Rogers.

June 6th, 8:30-10:00 a. m., Medical Clinic, Dr. D. W. Carter, Jr.; 10:00-12:00 a. m., Dermatology and Syphilology Clinic, Dr. J. B. Shelmire; 2:00-4:00 p. m., Clinical-Pathological Conference; "Cardio-Renal Diseases," Drs. H. M. Winans and G. T. Caldwell.

June 7th, 8:30-10:00 a. m., Medical Clinic, Dr. Homer Donald; 10:00-12:00 a. m., Pediatrics Clinic, Drs. H. L. Moore and G. McFarland; 2:00-4:00 p. m., Clinical-Laboratory Conference; "Endocrine Diseases," Drs. D. W. Carter and W. H. Moursund.

June 8th, 8:30-10:00 a. m., Medical Clinic, Dr. H. M. Winans; 10:00-12:00 a. m., Neuro-Psychiatry Clinic, Dr. J. J. Terrill; 2:00-4:00 p. m., Clinical-Bacteriological Conference; "Gastro-Enterologic Diseases," Drs. H. G. Walcott and E. B. McKinley.

June 9th, 8:30-10:00 a. m., Medical Clinic, Dr. G. L. Carlisle; 10:00-12:00 a. m., Pediatrics Clinic, Drs. H. L. Moore and R. C. Spence.

June 11th, 8:30-10:00 a. m., Surgical Clinic, Dr. G. M. Hackler; 10:00-12:00 a. m., Urology Clinic, Dr. A. I. Folsom; 2:00-4:00 p. m., Clinical-Pathological Conference; "Diseases of Breast," Drs. H. M. Doolittle and G. T. Caldwell.

June 12th, 8:30-10:00 a. m., Surgical Clinic, Drs. H. M. Doolittle and C. W. Flynn; 10:00-12:00 a. m., Ophthalmology and Otolaryngology Clinic, Dr. E. H. Cary; 2:00-4:00 p. m., Clinical-Anatomical Conference; "Hernias," Drs. J. B. Smoot and W. W. Looney.

June 13th, 8:30-10:00 a. m., Surgical Clinic, Dr. C. M. Rosser; 10:00-12:00 a. m., Surgical Pathology of the Female Genital Organs, Dr. G. T. Caldwell; 2:00-4:00 p. m., Gynecology Clinic; "Pelvic Inflammation," Dr. Elbert Dunlap.

June 14th, 8:30-10:00 a. m., Surgical Clinic, Dr. W. W. Shortal; 10:00-12:00 a. m., Surgical Roentgenology, Dr. Chas. L. Martin; 2:00-4:00 p. m., Clinical-Histological Conference; "Fractures," Drs. G. M. Hackler and C. G. Duncan.

June 15th, 8:30-10:00 a. m., Surgical Clinic, Dr. A. B. Small; 10:00-12:00 a. m., Orthopedic Clinic, Dr. W. B. Carroll; 2:00-4:00 p. m., Clinical Conference; "Goiters," Dr. C. M. Rosser.

June 16th, 8:30-10:00 a. m., Surgical Clinic, Drs. S. Webb and M. E. Lott; 10:00-12:00 a. m., Obstetric Clinic, Dr. C. R. Hannah.

Physicians desiring to concentrate on certain branches during the two weeks, should write the Dean as early as possible. Every effort will be made to meet their wishes.

There will be no fee attached to any of the clinics, nor will there be any certificates of attendance issued.

ORIGINAL ARTICLES

SYRINGOMYELIA.*

BY

M. L. GRAVES, M. D.,
GALVESTON, TEXAS.

This interesting and comparatively rare affection of the central nervous system, with report of two cases, is called to your attention not because of any recent discoveries in etiology, pathology or modes of treatment, but because the disease is rarely reported in this portion of the country; and it is possible and even probable that a fair number are not differentiated from other disorders of the nervous system producing similar complexes. It is, however, one of the most definite in pathology and symptomatology of all disorders of the central nervous system. It always originates in the central gray matter of the posterior part of the spinal cord or in the pons or medulla in similar structures, and produces symptoms of the nerve cells and tracts implicated in the local lesion.

The subsequent clinical picture is altered by enlargement, extension and transformation in the essential pathology of the disease.

ETIOLOGY.

The baffling character of nervous diseases is shown in our ignorance of the etiological factors in so large a number of them, even of the acute infections of the brain and spinal cord and peripheral nervous system.

At one time it was considered that traumatism had a decided influence in producing or inaugurating the disease, and the older textbooks contain many references to this fact. Some recent investigations, however, have thrown grave doubt upon this doctrine, and James Collier[1], in his very illuminating discussion of the subject, asserts that the disease is "either congenitally installed or occurs during the period of growth." That is to say, usually under thirty years of age. The disease has been reported in early childhood, and in many instances after thirty years of age, but many of the latter are believed to have reached a stationary period lasting for many years, although beginning in early life. Infection so far has not been shown to have either predisposing or causative influence. Some of these patients have either anatomical or physiological evidence of degeneracy, but the two patients reported by me were entirely normal until the inauguration of the disease —both about the age of thirty.

While the disease is not confined absolutely to the working class, I have never seen a case in other than those whose lives have been spent in physical labor. It appears to have no hereditary antecedents, nor any direct relationship to our intensive civilization, which has undoubted influence in many other nervous disorders.

PATHOLOGY.

The origin of the disease is invariably in the central gray matter of the spinal cord or brain stem. Its favorite location, as emphasized by Collier[2] is in the cervico-dorsal region of the cord, involving the lower three cervical and the upper three dorsal. It may, however, begin in the medulla or in the pons and progress downward. The disease follows the line of least resistance, much as fluid would flow. It rarely or never originates in the lower cord, although numerous cases are reported of extension to the lowermost portion of the cord—and one of my cases exhibits this extensive pathology in a most classical way.

The essential pathology appears to be one of gliosis or gliomatosis, varying in quantity and extent from almost imperceptible increase of the glial tissue around the central canal to heaped up masses of this delicate tissue, particularly in the pons and medulla, and sometimes in scattered areas throughout the cord.

Cavitation appears to result from softening or liquifying of the gliomatous mass or tissue, but just how this is brought about, I am unable to discover. The contents of the cavities is fluid of clear or yellowish color, without cellular or other distinguishing characteristics. It may be very minute in character, or may form considerable quantities of fluid, distending the cord to the limits of the spinal canal and producing marked pressure effects, and even requiring surgical drainage for any relief.

Authors differ as to the exact origin of the glial increase or the cavitation, but the best thought appears to me to be that the disease is probably dependent upon an embryological defect about the central canal.

Collier[3] asserts that it invariably involves the central canal and by the presence here and there—even in moderately advanced cases, of epithelial cells lining the cavities, this conclusion seems warranted. He calls attention to the quadriradiate character of the central canal in foetal life in the cervico-dorsal region of the cord and offers very suggestive evidence pointing to the evolution of this canal being in some way responsible for the inauguration of the disease.

It is reasonable to suppose that some form of irritation of this particular tissue estab-

*Read before the Section of Medicine and Diseases of Children, State Medical Association of Texas, El Paso, May 9, 1922.

1. Oxford Medicine, Vol. VI., p. 392.
2. Oxford Medicine, Vol. VI., p. 393.
3. Oxford Medicine, Vol. VI., p. 393.

lishes excessive growth, and the other pathological processes follow. Its favorite site is the posterior commissure, near to or involving the central canal, spreading backward, though irregularly, into the posterior horns and forward at a much later stage into the anterior horns, producing destruction of the gray matter and usually distension of the cavities with fluid. It will thus be understood why the early distinctive symptoms refer to the nervous tracts of pain and temperature sensation crossing in the posterior portion of the gray commissure and later being accompanied by increasing evidences of involvement of other sensory tracts and of limited and definite motor involvement in the anterior cornual cells and of the white tracts in the cord, particularly the pyramidal system by pressure. Local degenerative changes may result from the essential pathology of the disease, and by pressure produce focal muscular atrophy and certain vasomotor and trophic disturbances, such as Charcot joints and spinal curvatures, usually absent until late in the disease, but occasionally being predominant symptoms, as in the disease formerly known as Morvan's Disease.

It is quite interesting to know that the disease may extend the entire length of the cord, but the symptoms appear almost invariably to be far more pronounced in the upper extremities than in the lower. Ascending and descending degenerations are results of direct extensions and local pressure. When the disease begins in the pons or medulla, it is often overlooked unless extension down the cord makes diagnosis clearer. The glial deposits and degenerations appear to involve particularly the 5th, 7th, 9th, 11th and 12th nuclei, and sometimes the 10th, in which event respiratory difficulties and death may ensue.

CLINICAL PICTURE.

The symptoms are few and usually definite. They involve sensation, motion, muscular and subcutaneous nutrition, and certain other trophic and vasomotor disturbances.

Sensory.—The most unique and frequently the first subjective symptoms and objective phenomena, are the so-called dissociation anesthesias first clearly defined by Charcot. This interesting phenomenon, which is so prominent in this disease, may occur in tumors, hemorrhages and certain inflammations and infections of the cord, though usually not in so pure or so definite a form. It consists of a diminution, or loss, early in the disease, of the pain and temperature sense, with preservation of touch and all other forms of sensation. Pain may or may not be present, and when present usually is due to intensive pressure effect. In the later stages of the disease, with the encroachment upon the posterior horns and posterior columns of the cord, and even the lateral and antero-lateral tracts, the sensory disturbances take on the same complex character, and at this stage may involve great difficulty in differentiating the disease from the other conditions in the cord above enumerated.

The location of the pathology in the cervico-dorsal enlargement in the inauguration of the disease around the posterior portion of the central canal, will produce the dissociation anaesthesia in the hands and particularly in

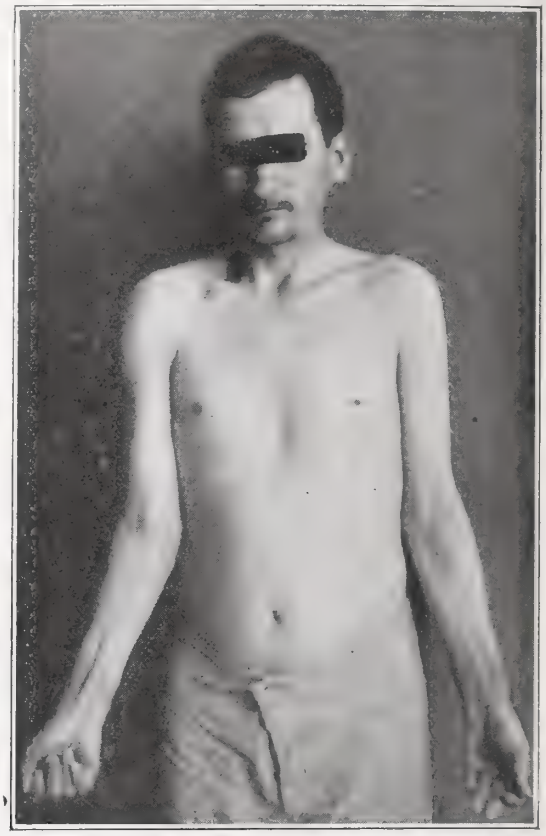


Fig. 1.—Flexor surfaces of hands, indicating spastic deformity; also slight atrophy in forearm, ulnar and radial surfaces.

the ulnar border of the forearm. Later there may be a glove or sleeve anaesthesia, dependent upon the advance of the disease. It is usually bilateral, though differing in extent and time of involvement, one hand, or arm or shoulder, usually preceding the other by a few weeks or a few months. When pain is present, it may be dull or constant, or even lancinating.

Motor.—Atrophy, rigidity and contraction, constitute the important phenomena. The atrophy may or may not be accompanied by fibrillary contractions of the affected muscles. They have occurred in my cases but have nothing like the prominent and diffusive character of those occurring in pro-

gressive muscular atrophies. The muscular atrophy usually involves the small muscles of the hand and forearm, and the shoulder girdle, and sometimes the neck muscles, including the sterno-cleido-mastoid, trapezius, hypoglossal, etc. This atrophy is bizarre and quite irregular. It is usually of spastic char-

Fig. 2.—Right arm and hand, indicating spastic contractures and flexor atrophy.

acter, up to disappearance of the muscle. Certain cases, however, present flaccid paralysis and atrophy. Much of the scapula or humeral musculature may thus perish, progressively or intermittently disabling the movements of the arm. The forearm has a tendency to become rigid, with development of griffin hand and with contractures of the muscles. In my cases these contractures involve the small muscles of the hands and wrists, particularly of the right hand, in one patient, the left hand in the other, though both were involved.

For an indefinite period it may be possible to extend the fingers or hand by passive motion, after voluntary extension is lost. In neither of my cases has the peculiar hypertension of the subcutaneous tissue of the fingers which produces the sausage fingers occurred. This, however, is sometimes a prominent feature and may be accompanied by trophic disturbances or a peculiar vasomotor phenomenon of redness and blueness, the hand appearing swollen and congested.

With the atrophy of the scapulo-humeral muscles, the arm is adduced and the scapulae stand out in wing formation. This appears marked in both shoulders in one of the patients herewith presented. The muscular atrophy, rigidity and contractures, advance intermittently in most cases, and may take years for substantial or great impairment of function. The lower extremities are not equally affected, even though the lesion may extend down the cord. There is ordinarily impairment of motion, with slight rigidity of the legs and with exaltation of the reflexes, even to the extent of ankle clonus, special extensor reflexes, like Babinski, being present.

In one of my cases the legs were flexed slightly at the knees and appeared stiff, the patient's station and gait being somewhat insecure. There was stumbling in walking and difficulty in climbing stairs, requiring rapid alternate flexion and extension, producing stumbling and early fatigue.

Vasomotor, Trophic, Etc.—These run the gamut from slight redness or blueness to an intense, red cyanosis, excessive sweating—or substantial absence of sweating, with dryness of the skin and loss of lustre to the trophic disturbances upon the fingers and hands in the form of whitlows or perforating ulcers which are slow or impossible in healing. The irregular atrophy and the peculiar sausage shape of the fingers and hands, and the bony changes in the spine and joints, are special features of most cases.

DIAGNOSIS.

The diagnosis is not difficult in a pure case, particularly if we keep in our diag-

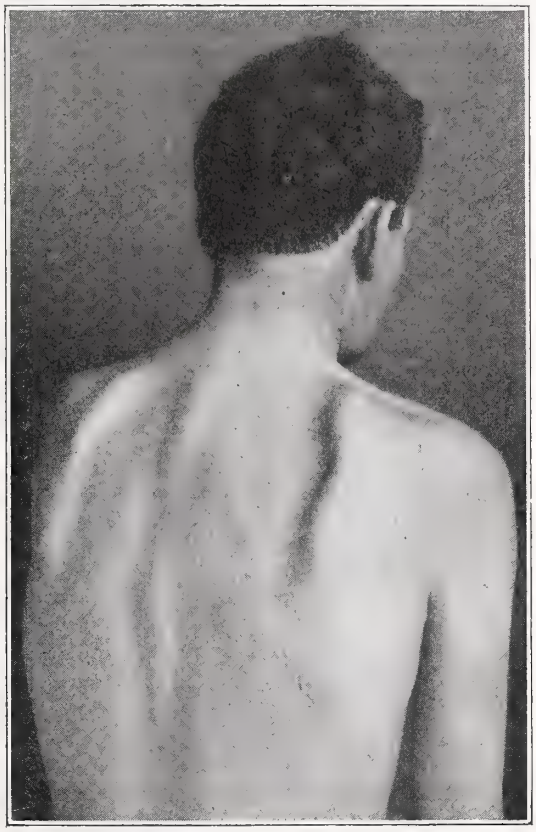


Fig. 3.—Wing scapulae: Atrophy of the muscles.

nostic horizon irregular and bizarre forms of muscular atrophy and sensory disturbances arising in the pons and medulla, particularly in the upper portion of the spinal cord.

One must differentiate tumor of the cord, central hemorrhages, myelitis, certain forms of neuritis and the progressive muscular

atrophies. The latter is not difficult in the Aran-Duchenne type, except, perhaps, in the very few cases in which Clarke's column is early involved with a flaccid form of paralysis.

In the amyotrophic or Charcot type of progressive muscular atrophies, the disease usually begins earlier in life and involves the lower extremities more prominently as a spastic atrophy without much sensory disturbance.

In hemorrhage into the cord it usually follows a distinct traumatism, occurs at once, shows rapid variation and a variable sensory picture with a very imperfect dissociation anaesthesia. Moreover, it is more likely to involve other sections than the cervico-brachial area, though this may be involved. Early alteration in the phenomena by reason of retraction and absorption of the clot, is also suggestive.

In tumors of the cord, unless centrally located or localized pain is a more prominent symptom, progress is more rapid and the sensory phenomena not so peculiar. One must not omit to mention cervical rib palsy with atrophy and sensory phenomena, extremely difficult at times to differentiate.

In one case of this type of the disease coming under my observation, the patient had complete absence of pulsation in the radial artery, atrophy of the forearm muscles and some pronounced sensory loss. The *x*-ray clearly revealed the extra rib, and its surgical removal entirely relieved the symptoms, even bringing back the circulation in the radial artery. The French school, however, has particularly called attention to the presence of cervical ribs in cases of actual syringomyelia, in which removal of the rib does not relieve the symptoms, and post mortem examination reveals the real pathology. While these symptoms may be bilateral—and in my case there were false ribs on both sides, the pathology is limited to one side and involves only the right arm. The trunk and legs are not involved. This makes an absolute differentation. If trunk or lower limbs are involved in any way, it eliminates cervical rib palsy.

I beg, in conclusion, to present herewith the clinical histories and descriptions of the sensory, motor and other phenomena, of two cases recently coming under my own observation, with photographs of a living patient. It is hoped that the presentation of these cases and specimens will serve to stimulate interest in and observation of such cases.

Case No. 1.—O. O. was admitted to the John Sealy Hospital September 9, 1911, and discharged October 12, 1911. He was several times an inmate of the hospital, the last time from May 15, 1920, until his death on August 13, 1921.

At the time of the first admission, in September, 1911, he was 49 years of age, a laborer, white and single. He was a heavy drinker, getting on frequent sprees.

Previous Diseases.—Exanthemata in childhood. In 1884 the patient fell from the mast of a ship and struck the lumbo-sacral region. Five years later a similar accident occurred. In 1900, there was another traumatism, produced by a fall of 30 feet, the patient striking his back upon some rocks. He first noted sharp pains in the lumbar region, radiating around the body as high as the left nipple. This occurred about two years after the last fall. Some time later, in 1902, he noticed that the muscles of his left hand were weak, and the hand felt numb at times. He could not tell when he had anything in his hand, and was afraid to pick up things for fear he would let them fall. A few months later, he noticed that the left hand was becoming deformed. This gradually increased, though slowly. In 1906, about four years later, he noticed a swelling of his right hand, which appeared to suppurate, though it did not pain him at all. The abscess was incised at his direction, and drained for about a year, discharging a considerable quantity of pus, the wound evidently closing from time to time and being reopened. About seven months after the wrist was lanced, he noticed a burning sensation and numbness in the right hand, and this hand also began to show deformity, and this clumsiness, limitation of movement and difficulty of holding and handling objects, continued to get worse.

About 1911 the patient experienced pain of a girdling character, about the lumbo-sacral region. It was sharp and shooting. This was followed by wasting of the muscles of the lower arm, especially on the flexor surfaces. The shoulder muscles perished without his noting the progress. Distortion of the right hand continued until the claw hand was present.

About 1918 or 1919, he noticed that something was wrong with the left side of his face. It felt numb and he could not talk well. He felt as if something was tying his teeth down. Upon attempts to laugh the mouth was drawn to the right side. The difficulty was present for a short time and then disappeared. Subsequently he noticed that the left eyelid began to droop.

In October, 1919, he experienced great difficulty in walking, and had to take hold of something in order to be secure, and his feet would "sling around" as if they did not belong to him. The trouble came on gradually and was two or three months getting better.

During 1920, while coming from his work, for some unaccountable reason he fell down on the sidewalk and broke the right femur at its neck. The fracture was very slow in healing and resulted in deformity, with shortening. The patient was in the surgical service for three months, recovering finally, with one or two trophic ulcers which were slow in healing. He thought his legs had been getting weak for several years before this accident. As far back as October 3, 1919, he had complained of difficulty in walking and even remembered having had dull, aching pains in both thighs posteriorly in the upper third, the pains being intermittent for about one month.

Upon his first admission to the hospital, in 1911, his physical examination revealed marked atrophy of the shoulder muscles and both the flexor and extensor surfaces of the arms and body, but he had lost pain and temperature sense over the arms and chest, down to two inches below the nipples. The legs at this time were weak, the knee jerks exaggerated, the reflexes of the arms diminished, and Babinski and ankle clonus were not present.

The case history indicates a venereal lesion about 1890, with a stricture a few years later. The Wassermann was reported weakly positive on one occasion. Spinal fluid report, September 15, 1919, was as follows:

Appearance	Clear, colorless
Fehling	Normal
Globulin	1 plus
Cells	12 per cm., all lymphocytes
Wassermann	2 plus
Lange	5-5-5-5-5-5-3-2-1-0-

During this time the sensory disturbance had increased in intensity and extent, being complete in both arms and hands and on the front and back of the chest above the seventh rib, his incoördination steadily increasing and his gait becoming more spastic.

X-ray examination revealed proliferation of both elbows and both wrists. In May, 1920, all symptoms were advanced, muscular atrophy had increased, deformities of hands and elbows were more pronounced, there was a three-inch shortening in the right leg, knee jerks were exaggerated and the right foot showed Babinski. The left side of the face showed diminished sensation to the touch, pain, heat and cold. The legs and feet showed diminution of sensation, but not so marked as in the arms.

Blood examinations and urinalyses in all of these admissions and up to the close of life, showed nothing of significance except a moderate secondary anaemia and the presence of albumen and pus cells in the urine. Well-marked kyphosis existed in the dorsal spine. The patient continued to grow steadily worse, becoming demented and entirely unreliable, and was unable to walk during the last year of his life.

His death occurred August 13, 1921, with a primary diagnosis of syringomyelia, and a secondary diagnosis of osteo-arthritis and general paresis. When he was admitted, September 9, 1911, and discharged October 12, 1911, the case was considered a pure syringomyelia.

The autopsy findings, reported by Dr. Hartman, were:

"Small cavity noted in basilar portion of left pons.

"1. Old healed fracture of the body of the first lumbar vertebra, with acute angulation, convexity dorsally, with pressure on cauda and conus.

"2. Involvement of cauda in calcareous infiltration of theca, especially in the lower three inches, but more or less from the site of the fracture down, the anterior aspect of the cauda being most adherent.

"3. Old fracture of the neck of the femur, with much proximal displacement of the shaft, and fibrous ankylosis.

"4. Typical syringo-myelic cavitation of the whole length of the cord, especially in cervical and lumbosacral enlargements.

"5. Slight atrophy of cerebral convolutions.

"6. Typical syringo-myelic deformity of the upper extremities, and shoulder, elbow, wrist and hand articulations.

"7. Probable paralysis of the right side, from limited pontine lesion.

"8. The left kidney appeared to show chronic nephritis changes. The bladder was normal. No other organs were examined."

Careful study of the gross and minute pathology in this case failed to reveal any of the lesions of general paresis, although the history of venereal lesion was definite and the spinal fluid was Wassermann and Lange positive. The extensive syringo-myelic cavitation, with its primary and secondary degenerations of important structures of the cord, readily explain all of the phenomena presented during life.

Case No. 2.—H. B., male, age 34, white, farmer, unmarried, was admitted to the John Sealy Hospital, December 4, 1921, complaining of difficulty of walking.

Family History.—The father, mother, one sister and three brothers are all living and well.

Personal History.—Had measles and mumps and pneumonia when 10 years old. Sleeps irregularly, and suffers pain. His eating is good, and he does not drink to excess.

Present illness began four years ago, with pain in the back of the neck, which gradually radiated to the left side of the neck and the back of the head. He occasionally feels it in chest. Gradually his right arm got weak, then his right leg, and finally both arms and legs became very weak. During the past year his joints have been growing stiff, and the fingers of the right hand have drawn until they are permanently flexed. Two years ago the right hand became numb, and four or five months ago the left hand and arm became numb. He has had no pain in the limbs. He is constipated, but when his bowels want to move he cannot control the sphincter longer than a minute or two. The urinary bladder sphincter is in the same condition. There are no ocular disturbances, but some difficulty of hearing in the right ear. His mind is clear.

Physical examination showed a well-nourished individual. His weight, usually from 165 to 175, is at present 170 pounds.

There was a white coat on the tongue and sordes on the teeth. There was an arterio-sclerosis, with a blood pressure of 120-80, and a pulse rate of 80, with a regular rhythm. The patient denied any venereal infection.

Examination of the nervous system showed anesthesia of both hands; reflexes exaggerated; pupils reacted to light, and there was nystagmus. The right side of the tongue and the inside of the cheek were anesthetic. Patient chewed with difficulty on that side. There was diminished sensation over the entire body, more marked on the right side of the face and the right side of the hand and forearm. The hands and forearms were anesthetic to pain and touch. Deep pressure was felt. The Rhomberg, Babinski, Gordon, Oppenheim and Graves signs were all positive. There was an atrophy of the shoulder girdle and the shoulders were drawn forward.

The blood count showed, red cells, 5,430,000; white cells, 6,900; polynuclear, 58 per cent; transitional, 3 per cent; large mononuclear lymphycites, 2 per cent; lymphocytes, 36 per cent; eocinophile, 1 per cent. The blood Wassermann was negative, with cholesterine and acetone insoluble antigens. The urine was yellow and slightly turbid; reaction, acid; specific gravity, 1030; albumen, negative; sugar, negative; epithelium, occasionally; leucocytes, occasionally; mucus, considerable; crystals, a few urates.

The spinal fluid was clear and colorless, the Wassermann was 1 plus, with colesterine and acetone insoluble antigens, and with the Lange colloidal gold test, 5-5-4-4-4-4-3-2-1-0.

X-ray examination was normal as to the spine, and showed absence of cervical ribs.

The patient stood slightly stooping, shoulders drooped. Both arms were adducted, with the forearms slightly pronated. There were fibrillary twitchings in the pectoral, and arm and forearm muscles, especially on the right side. The forearms and hands were somewhat rigid. There was slight flexion at the wrist and palmer flexion of the fingers of the right hand, except the thumb and little finger. The fingers could be extended passively, although with

difficulty. The left hand and wrist were easily extended by passive motion. There was slight atrophy of forearm muscles on both sides, and interossei muscles of both hands. There was also atrophy of the thenar on both sides. The scapulae were winged, the right being much more prominent than the left. The shoulder girdle muscles were atrophied, being more advanced on the left side. Lumbar lordosis was beginning. The legs were somewhat spastic, the right more pronounced than the left.

In the right foot the Babinski and Chaddock signs were present; the Oppenheim and Gordon signs were absent; ankle clonus was present and the patellar tendon reflexes were exaggerated. The forearm muscles were too spastic to permit test of reflexes.

On the left side the Babinski and Chaddock signs were absent. The patellar tendon reflexes were exaggerated. Ankle colonus was slight but present. Extensors of the left forearm were too spastic to test.

Epicritic sensation was present over the face, forearm, ears, anterior portion of the neck down to the clavicles, posterior surface of neck and ears and lateral aspect of the neck down to the vertebra prominens and extending out to the acromion process on both sides. The prick of a pin was felt normally on the face, anterior and posterior surface of the ears, and lateral and posterior surface of the neck, except for some diminution in intensity in the right lower anterior region, in a triangular area with apex at the strenum and base near tne acromion process on the right side. There was no variation from the normal on the left side. The thermic sense was normal over these areas, except it was more acute on the left side of the face and neck.

Epicritic sense was present on the right anterior surface of the chest, in a triangular area on a level with the nipple, with apex in the sternum and base in the middle axillary line. The left anterior surface of the chest was normal. There was no pain in the area showing diminished epicritic sense; reaction to pain elsewhere was unreliable.

On the back, epicritic and pain senses appeared undiminished; thermic sense was unreliable on both sides, from the inferior angle of the scapulae upward to the neck.

Epicritic sense was absent on the right arm, in a small area on the upper medial side, extending into the axilla and merging into the area described in the right chest. The right forearm was normal. Epicritic sense was absent over the palmar surface and fingers of the right hand, and unreliable over the dorsal surface of the hand and fingers.

Epicritic sense was present in the left arm. The left forearm was normal down to the distal end of the radius and on the medial side to the junction of the middle and lower thirds of the ulna. It was present over the radial aspect of the left thumb and absent over the palmar surface of the left hand and fingers.

Pain was normal in the right arm, except for the small area described above, in the medial side and upper third of the arm, in which area it was absent. The right forearm was normal. There was no pain over the radial side of the right thumb.

There was no pain over the lateral half of the left arm and all of the left forearm.

Reaction to pain was normal over the left thumb and ulna border. It was almost abolished over the entire palmar surface of wrist and hand, and absent elsewhere on the left wrist and hand. The thermic sense was unreliable in the right arm, forearm and hand; unreliable and somewhat variable in the left arm; unreliable over dorsal aspect to the tips of the fingers, and absent over the palmar surface of the left wrist and hand, and variable over dorsal surface of the left forearm.

The sense of position was normal in the left arm and forearm.

Vibratory sense was not satisfactory, recognition being inaccurate over both diseased and normal portions of the body.

Photographs herewith presented indicate the posture and appearance of the patient, with exhibition of the spasticity, contractures and deformities. The drawings indicate the loss of sensation at one period of the disease.

Notwithstanding the negative history of lues, the positive findings in the spinal fluid justified the administration of mercurial inunctions and Neo-arsphenamin intravenously and intra-spinally. This has been carried out in the usual way with some improvement of the patient.

While his condition is improved at the present time, it is not believed that the disease is of luetic origin, but a positive syringomyelia which will not permanently improve.

X-ray and laminectomy, with surgical drainage, are under consideration. James Collier[4] has reported brilliant success in a few cases treated in this way. Other therapy appears to be valueless.

ABSTRACT OF DISCUSSION.

Dr. J. Spencer Davis, Dallas: I have seen one case of springomyelia in which there were apparent acute exacerbation and temporary paralysis of deglutition and labored respiration. The acute attacks would pass off in from three or four days, followed by increased disability. The case appeared to me at first to be one of apoplexy, but after recovery from the acute stage an examination of the nervous system revealed dissociation of sensation, as described in the papers just read. The Wassermann reaction from the blood and spinal fluid was consistently negative over a period of three years. The patient finally died with an apparent respiratory paralysis. The heart continued to beat for some time after respiration had ceased.

4. Oxford Medicine, Vol. VI., p. 406.

Commercial Vitamin Preparations.—No student of the subject of vitamins can fail to recognize the ridiculousness of recent attempts to supply alleged vitamin-bearing preparations as cure-alls. It is doubtful if any latent, not to say evident, avitaminosis is prevalent in this country. Nevertheless, preparations sold to supply this alleged need of vitamins should at least not be fraudulent. E. P. Bailey of the Connecticut Experiment Station has determined the potency of some commercial vitamin preparations as compared with that of dried brewers' yeast. The report stated that apparently many manufacturers are not convinced of the efficiency of their vitamin preparations and, therefore, have added various medicaments of established reputation in therapeutics for good measure and to insure a reaction of some description. Bailey compared the potency of the products on the reasonable assumption that a preparation which in a 100-mg. dose does not exhibit the potency shown by 100 mg. of a good grade of dry brewers' yeast employed under comparable conditions does not justify a claim of superior therapeutic value as a source of water-soluble B vitamin. On this basis, nearly half of the advertised products failed. Others showed only inferior content of vitamin. A few of the products equalled good brewery yeast in potency and only two or three products among nearly two dozen examined showed any superiority of "concentration" over ordinary yeast.—*Jour. A. M. A.*, Nov. 25, 1922.

SYRINGOMYELIA AND SYPHILIS OF THE CENTRAL NERVOUS SYSTEM, WITH REPORT OF A CASE OF TABES WITH A SYRINGOMYELIA SYNDROME.*

BY

CLAUDE UHLER, M. D.

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Syringomyelia has been defined in terms of its anatomical, clinical and pathogenic features. Its definition is, therefore, as varied as its histology, clinical picture and suggested etiological agents. It is generally accepted that it is a chronic, progressive disease of the spinal cord, characterized clinically by sensory, motor and trophic disorders and anatomically by the presence of cavities, which may be due to either predisposing or exciting agencies, such as developmental or congenital anomalies, trauma, vascular changes, toxic-infectious or mechanical factors. Attempts have been made to reserve the term for changes in the cord primarily due to neurogliar developmental defect with characteristic pathology,[1] but for clinical use it has been understood to cover a group of cavities in the cord, regardless of their shape, size, lining membrane and adjacent tissue reaction, so located as to give a fairly well defined symptom complex.

The terms spinal gliosis and syringomyelia, have been used as synonymous since they produce practically the same clinical picture.[2] Not rarely combinations have been found with other diseases: Progressive muscular atrophy, amyotrophic lateral sclerosis, multiple sclerosis, muscular dystrophies, epilepsy, hydrocephalus, spinal cord tumors, psychoses, endocrinopathies and syphilis of the central nervous system. This article is limited to a discussion of syringomyelia in luetic cords.

The first group to be considered includes those cases of cerebrospinal lues associated with syringomyelic syndromes. Nonne[3] reports a history of infection five years previously, spastic paresis of the legs, atrophic paresis in the hand, dissociated sensory disorders, miosis and sluggish pupils with positive blood and spinal fluid Wassermann. Scherb[4] reports a history of infection six years previously, sharp pains and spasmodic twitching in the left hand, weakness, atrophy, exaggerated deep reflexes and typical dissociated sensibility with clearing up of both the objective and subjective sensory changes under anti-luetic treatment. Oppenheim[5] reports a case with bulbar symptoms developing on a leutic basis and clearing up on anti-luetic treatment. Bruns[6] reports a history of infection five years previously, with weakness and atrophy in the arm, lightning pains, sphincter disorders, complete loss of temperature sense and diminution of pain, absent knee kicks, unequal pupils and slight kyphosis. Feiling[7] reports a history of infection thirty-five years previously, a hemiplegic attack with good recovery, developing inferior paraplegis, and an A. R. pupil with the typical triad of syringomyelic symptoms and with negative blood and spinal fluid Wassermann. Ziehen[8] reports a typical general paresis with dissociated sensibility and trophic disorders of the nails and joints. Mann[9] gives a history of pains in the arms and fingers, with muscular atrophy, dissociated sensibility and trophic disorders in the legs with right-sided facial paresis and unequal pupils reactive neither to light nor accommodation. Gnezda[10] reports the typical triad along with sphincter disturbance, positive Romberg and A. R. pupil. Arnstein[11] reports typical syringomyelia with positive blood and spinal fluid Wassermann, positive globulin and lymphocytosis. Moll[12] gives atrophy of the muscles of the foot, weakness in the left hand and foot, dissociated sensibility, unequal deep reflexes, sluggish pupils and positive blood Wassermann. Parmentier's[13] and Strominger'[14] cases are both tabetics with dissociated sensibility. Dekeyser, Debray and Olynik, describe syringomyelias developing on a leutic basis. Other cases are reported by Sortos, Erb Pribitkoff and Iwanoff.

None of the cases of this group were accompanied by autopsy reports, so actual proof is lacking of the presence of two disease processes. Most of them, however, are definitely established cerebrospinal lues, so they might at least have been expected to show central lying lesions in luetic cords with due reservation for the possibility of the whole clinical picture arising on a luetic basis, especially in those cases where only the sensory changes of syringomyelia are present.

The reverse condition, that of well-defined syringomyelia with symptoms of cerebrospinal lues but without lues, is illustrated in the second group. Central gliosis has been noted occasionally to extend to the posterior

*Read before the Section on Medicine, State Medical Association of Texas, El Paso, May 9, 1922.

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13. Parmentier: Nouv. Icon, de la Salp., 1891, No. 5.
14. Strominger, L.:

columns and produce a tabetic symptom-complex. Schlesinger[15] describes a tabetic type of syringomyelias, and states that: "The recognition of this form would be exceptional were it not for trophic changes, such as paronitium and scoliosis." Condulmer reports a tabetic type of syringomyelia. Astvatsaturoff describes a gliomatous pseudo-tabes in a syringomyelia. Hoffman pointed out that the spreading of the gliomatous process so as to involve the posterior columns might produce tabetic symptoms. Oppenheim[16] states that "the symptoms of gliosis may undergo a material change should the tumor affect especially the posterior columns or be accompanied by degeneration of the posterior columns." His case gave a history of infection, lightning pains, dissociated sensibility, absent K. K., and A. R. pupil, and a mental picture of general paresis with central gliosis, degeneration of the posterior tract and luetic endarteritis of the spinal vessels. He believed that in this case the secondary degeneration in the posterior tracts was due to pressure following the spreading central gliosis, and that there was little in common with the anatomical picture of tabes. He considered it primarily a central gliosis but admits "that it would be possible for the lues to induce changes characteristic for tabes in a spinal cord which offers as a result of development anomaly, a locus minoris resistentiae." Nonne's[17] case was considered primarily central gliosis; a history of infection six years previously, with pains in the legs, absent K. K., A. T. pupils, optic atrophy, modified dissociated sensibility, showing diffuse central gliosis with cavity formation, degeneration of the posterior tracts, without vascular or meningitic processes pointing to lues except in the basilar artery. He gave a guarded opinion as to the existence of two distinct processes, saying that the cord differed in no way from one not infected with syphilis, and that the microscopic appearance pointed to a genetic relationship between the gliosis and the glia proliferation of the tabetic-like changed cord.

A third group of cases comprises those where cavitation was found at autopsy, together with definitely luetic changes, anatomically combined syringomyelia and syphilis of the central nervous system.

Rosenblath reports a history of three abortions, headaches, dizziness, partial inferior paraplegia showing at section luetic meningitis and cavities. Nebelthau gives a hemiplegia with increased intracranial pressure showing a luetic meningitis, a gumma and a cavity. Wieting reports a history of hemiplegia in the fourth decade, wasting and contracture of the left leg, with sections showing luetic meningitis, irregular neurogliar masses with cavities and secondary degeneration of the posterior and pyramidal tracts. Taylor reports a left hemiplegia, with inferior spastic paresis showing a luetic meningitis, a gumma on the anterior surface of the cord and a cavity independent of the central canal running the entire length of the cord with a lining wall of somewhat denser cord tissue than usual. Lamy gives a luetic meningitis, homogeneous masses in the gray substance always about changed blood vessels, appearing mostly in the anterior horn and the commissure. Schule reports a history of infection, luetic meningitis and cavities. Schultze reports a transverse myelitis, luetic meningitis and a cavity. Schwarz gives a history of abortion pains and paresis in both legs, ataxia, absent K. K. and R. I. paraesthesias, loss of sensibility in the legs, showing luetic meningitis, hemogenization of the cord, cavities and meningeal cyst. Beevor gives a history of numbness, weakness, pains, typical dissociated sensibility in the right leg and right side of the trunk. At section in this case there were two gummata on each side of the brachial enlargement, with the cord so soft and spongy that microscopic sections were not made. Japha gives a history of infection, with pain and weakness in the right leg and up the back, weakness of the arms, inferior paraplegia and dissociated sensibility, with a clinical diagnosis of syringomyelia, showing at section luetic vascular changes and pachymeningitis, sclerosis and liquifactions of the cord, internal and external hydrocephalus and a cavity apart from the central canal. Holmes and Kennedy give a history of infection, double hemiplegia and optic neuritis, diplopia, ataxia, small sluggish pupils, analgesia in patches with preservation of touch and temperature, positive Romberg, showing luetic meningitis, endarteritis and an extensive cavity extending from the mid-lumbar region into the medulla.

The following six cases are tabetics, with cavities found at autopsy: Eisenlohr reports a typical tabes, with irregular sensory disorders, intense hypalgesia over the legs, with preservation of touch and temperature, showing degeneration of the posterior tracts, luetic lepto-meningitis and a cavity in the upper dorsal and cervical regions surrounded by glia proliferation and connected with the central canal in the cervical swelling. Jegerow reports a history of infection, inferior paraplegia, absent deep reflexes and A. R. pupil showing a luetic sacral meningitis, endarteritis, tabetic degeneration and a few cavities in the cord. Crouzon reported three cases of tabes without

15. Schlesinger, H.: Die Syringomyelie, Monograph, 1902, Beobachtung, xii.
16. Oppenheim, H.: Arch. f. Psychiatr., 1893, Vol. xxv, p. 321.
17. Nonne, M.: Syphilis und Nerven Systerm, 1915, p. 568.

objective sensory disorders, one with a cavity in the cervical region surrounded by sclerotic tissue; another, a cavity extending through the upper lumbar region, with a complete ependymal lining; the third, a cavity in the lower cervical region with an ependymal wall and distinct from the central canal. Souques and Barbe give a history of abortion, lightning pains, girdle sensations and a feeling of constriction about the thorax, laryngeal crisis, ataxia, positive Romberg, absent deep reflexes, hypotonia, astereognosis, A. R. pupil, area of anesthesia showing degeneration of the posterior tracts and two gliomas, one cavity and one solid.

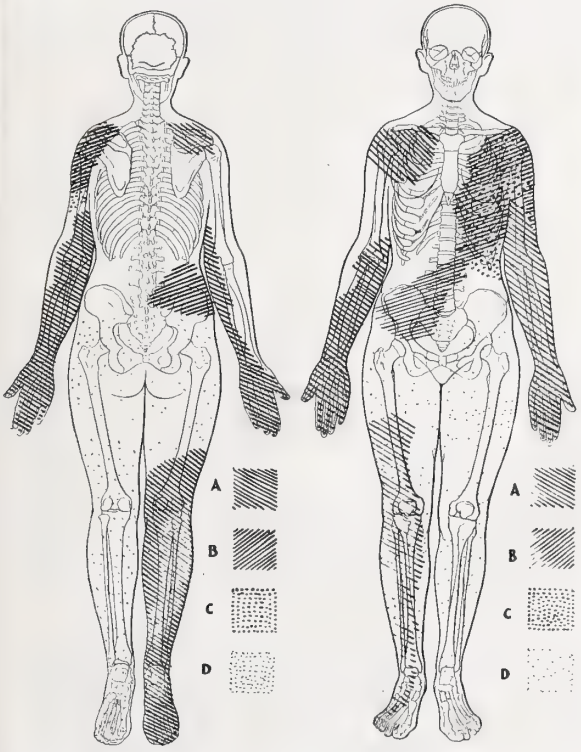

FIG. 1.—Anterior view of sensibility disturbances in a case of tabes dorsalis in which syringomyelia was suspected, but which presented typical tabetic lesions at autopsy.

FIG. 2.—Posterior view in case shown in Fig. 1.

A, Loss of tactile sense; B, loss of temperature sense; C, loss of pain sense; D, loss of tactile discrimination.

The following six cases are general paretics with cavitation: Joffroy and Gombault report a history and clinical picture typical of general paresis, without sensory disorders showing a thickened pia, luetic endarteritis, some lesions in the posterior tracts with an enlarged central canal surrounded by neuroglia bound by cylindrical epithelium. Gianelli found cavities in three cases of general paresis, with interstitial gliosis of the posterior tracts. Koberlein reports a case of hydromyelia with typical paretic changes. Galloway reports general paresis, with indefinite sensory changes showing a dilatation of the liaeral ventricles and a cavity from the upper cervical to the upper lumbar regions. In only one of the cases noted under this group was syringomyelia suspected during life.

The fourth group, a combination of syringomyelia with tabes, established both clinically and anatomically, includes two cases, one reported by Schlesinger[18] in 1902, the other by Spiller[19] in 1908. Schlesinger gives a history of paraesthesias, girdle sensations, ataxia, diplopia, optic atrophy, A. R. pupils, positive Romberg, absent K. K. and A. I., dissociated sensibility over the whole body and painless whitlows, showing posterior tract degeneration, internal hydrocephalus and a cavity extending the entire length of the cord, except through the lumbar region bordered anteriorly by the white commissure and epithelial lining, and posteriorly occupying part of the posterior tracts, lined by a network of glia fibres and cells. The walls of the cavity in some places passed diffusely into the degenerated posterior columns but for the most part were sharply defined; neither the menınges nor blood vessels showed specific luetic changes. Spiller reports ataxia, lightning pains in the legs, girdle sensation, incoördination of movement, sphincter weakness, absent deep reflexes, A. R. pupils, gray atrophy of the optic nerves, atrophy of musculature, especially over the left shoulder, varying degrees of loss of pain and temperature, showıng posterior tract degeneration, thickened pia and a dilated central canal extending from the mid lumbar to the third cervical segment. Oppenheim's case, mentioned above, is clinically a combination of tabo-paresis with a syringomyelia syndrome, but anatomically is described as a spinal gliosis so influencing the posterior tracts as to produce the symptom complex of tabes. Oppenheim notes, however, the possibility of the posterior tract degeneration developing on a luetic basis in a cord primarily weakened by congenital anomaly.

An original case of tabes with the syringomyelia syndrome, with autopsy, is reported here in full.

Case No. 1.—Mary H., 44 years old, married, was admitted to the Church Home Infirmary, Baltimore, Md., July 22, 1918, with complaint of sharp pains in the arms and legs, and weakness of the right hand.

The family history was negative, except that a paternal uncle died with apoplexy.

Her early development was normal. She had the usual childhood diseases—measles at 5, scarlet fever at 7. She had rheumatic fever at 10, and at 14 an attack of chorea, lasting four months, with recurrence at 17 for three months. Otherwise she had been quite healthy and robust. Adolescence and sex development presented nothing unusual. She men-

18. Schlesinger, H.: Die Syringomyelie, Monograph, 1902. Beobachtung xii.

19. Spiller, W. G.: J. Med. Research, 1908, Vol. xiii, p. 149.

struated at 14 and married at 18. Her first pregnancies ran uneventful courses. There are two children, living and well. During her last two pregnancies, at 26 and 28, she aborted in three or four months. She was operated upon for hernia at 30, and for tumor of the uterus eight years ago. There is no history of luetic infection and no history of trauma.

In July, 1917, the patient noticed queer sensations in both arms. There was persistent tingling and nervousness, more marked on the left side. Two months later, sharp darting pains set in over the back of the left hand and sometimes up the arm.

Occasionally, her hand became heavy and swollen, for two or three days at a time. During the winter she noticed that her right arm tired quickly. Sharp pains shot down the arm and leg on that side. She grew generally weak and had to stop house-work in March, 1918. She began having trouble walking, on account of increasing weakness in both legs. Definite wasting followed in the right forearm and hand, the palm growing flat. There was enlargement of the right wrist joint and drawing up of the medial three fingers, so that the arm was practically useless. There is history of marked constipation for the past year, but otherwise no sphincter disorders. She said that she had grown nervous during the past few months, easily startled and restless at night. She was taking medicine for "nervousness and rheumatism."

She was undernourished, being thirty pounds below the ideal weight. She was suffering sharp pains in the right arm and leg, and moved restlessly in bed. The skin was everywhere loose and soft. The nails and hircae were of normal configurations. There was no sign of congenital anomalies; no asymmetry of the head, trunks and extremeties. There was no contraction of the visual fields.

The musculature everywhere over the body was soft and wasted, especially the flexors and supinators of the right forearm, the thenar and hypo-thenar eminences and interossei of the right hand and the plantar flexors of the right foot. Definite fibrillary twitchings were made out in the right arm. There was no resistance to passive movement, except in extending the right little finger, ring and middle fingers, which were partially flexed over the palm. Strength was everywhere diminished and more marked in abduction of the arm, flexion and supination of the forearm, flexion of the thigh and dorsiflexion of the ankle on the right. There was slight tremor of the extended fingers of the left hand. Voluntary movement was limited in the right arm, especially in extending the fingers. The biceps, triceps, perioster-radial, knee jerks and ankle jerks, were absent. The abdominal reflexes were not obtained. Station and gait were unsteady.

The only trophic disorder was a painless, hypertrophic arthritis of the right wrist-joint. Dermatographia was present.

Sensory disorders were of decidedly irregular distribution, corresponding neither to radicular nor peripheral involvement. Areas of tactile anesthesia covered the arms and the right leg. There was loss of temperature sense over the left shoulder, side of the trunk and across the abdomen, of somewhat broader boundaries than loss of pain, where there was typical dissociated sensibility. There was also marked retardation of pain stimuli over the legs. Muscle sense was definitely impaired, movements of the big toe in all directions being confused. There was complete loss of vibratory sense over the malleoli in both legs. Slight differences in the force of deep pressure were not recognized.

The urine showed a slight trace of albumen and hyaline and granular casts. Blood count showed, white blood corpuscles, 11,000; red blood corpuscles, 4,000,000. Hemoglobin was 78 per cent. The differential count showed a slight lymphocytosis. The blood Wassermann was 4 plus. The spinal fluid Wassermann was 4 plus. There were positive Ross-Jones and Pandy tests, and 16 cells to the cu. mm.

The clinical diagnosis was syringomyelia, combined with tabes.

The patient grew steadily weaker during the following few months, developed inferior paraplegia and incontinence, and hypostatic pneumonia.

The pathological report stated the finding at autopsy to be typical tabes dorsalis, with posterior column degeneration, involvement of the posterior roots and meninges in the cervical and lumbar segments and luetic endarteritic changes.

The association of cavities and spinal lues in the same cord may be considered from two viewpoints; either as an accidental condition or as a genetically related complication. Each theory has had its supporters. Rosenblath believed that the cavity formation and the doubling of the central canal, were due to developmental anomaly and made no mention of a syphilitic basis. Joffroy and Gombault looked upon their case as a true peri-ependymal neoplasm, with dilatation of the central canal, a syringomyelic who developed general paresis. Souques and Barbe suggest that syphilis, which is the cause of tabes, may be the cause also of syringomyelia, or that the tabetic lesions provoked a secondary proliferation of neuroglia. They are more inclined to believe that each process developed independently.

An origin of a tabetic symptom complex in the course of syringomyelia from extension of gliosis to the posterior tracts, has been proposed. Schlesinger described this form, pointing to the existence of a tabetic process while the posterior tracts actually show a gliosis, capable of eliciting only spinal or bulbar symptoms. There is little doubt that in some cases new extensions of the process run out in irregular directions. Grund shows the diffuse spreading of growths in the cord to involve the meninges in three cases. Other cases are reported by Roux and Paviot, Fischer, Frankel-Banda, Alzheimer, Saxer.

Van Gieson described a case of syringomyelia in which a true glioma filled the cavity as an outgrowth from its wall. Leupold reports a case where a secondary glioma developed from the glia proliferation, and emancipating itself from its ground soil, grew out as an extramedullary tumor. Oppenheim states that "the symptoms of gliosis may undergo a material change should the tumor affect especially the posterior columns or be accompanied by degeneration of the posterior columns."

The condition where cavities develop on a luetic basis concerns an actual genetic relationship, in favor of which a number of theories have been advanced. The formation of syphilomata about the central canal, with sub-

sequent disintegration and cavity production, is possible and was given special attention by Frey, Beevor and Nonne. Localization of the lesion about the central canal is sufficient to induce a more or less typical syringomyelia syndrome, although the exact nature of the lesion would not be established during life. The growth of a glioma, properly situated, developing from the interstitial gliosis of the degenerated posterior tracts of tabes, might similarly produce this syringomyelia symptom complex. Eisenlohr believed that the syringomyelia had taken its origin from the gliosis developing from the glia proliferation, associated with posterior tract degeneration. For the development of such a process, destructive in type, there must be a complete transformation in the nature of the tabetic proliferation.

In other instances, syphilis may act directly, through toxic agency upon the nerve tissue, producing a myelitis, destruction of the parenchyma and replacement, condensation and reactive growth of the remaining neuroglia which approaches a gliomatosis with heavy nucleation, or else the supporting structures become edematous and wide-meshed, the fibrils crumble into granular masses and suffer wholesale destruction with cavitation. Schlesinger requires an earlier participation of these cords through vascular changes, saying that it is questionable whether it produces the development of cavities stripped of ependyma, or a primary gliosis without other cord or meningeal changes.

In other cases, mechanical factors have been proposed, such as contraction of the posterior tracts, causing disturbances of circulation and nutritional changes in the periependymal substance of the central canal; or that irritation from the posterior tracts gave the primary impulse to the evolution of the gliosis or simply just a compression of the spinal cord on a luetic basis. Compression might follow high-grade meningitic changes with interference of the blood or lymph circulation.

Rosenblath pointed to the heavy pachymeningitis as the original seat of the lesion, the disintegration beginning there and ending in syringomyelia. The part played by nutritional disorders through interference of the vascular or the lymph system, has been given primary importance. Considering the central canal as the collecting lymph canal of the cord, Crouzon ascribed his cases of hydromyelia to lesions of the post-lymphatic system in the degenerated posterior tracts, "a condition different from single hydromyelia on account of the absence of periependymal growth."

Jopha noticed that his cavities followed the areas of distribution of obliterated blood vessels. Schwarz similarly regarded the homogenization of tissues as probably due to an exudate from lymph stasis by compression upon the circulation from a meningitis in the region of the sulco-commisural artery, claiming that liquifaction from ischaemia differed in no way from "true syringomyelia." Lamy found hyaline homogeneous masses in the gray substance always about changed blood vessels in the anterior horn and in the commissure. Charcot and Joffroy regarded meningitis as the primary lesion, while Schlesinger and Hoffman considered it to be secondary to changes within the cord.

Schlesinger describes the nature of the disintegrating process on a vascular basis rather vividly: "Homogeneous masses are found in the path of the vessels. The nerve fibres become more scarce, the ganglion cells indistinct, the glia structure becomes poor in fibrils. Finally the whole tissue falls to pieces, runs together and is absorbed." He adds that these cavities belong to the general group of syringomyelias, although they have nothing to do with developmental or congenital anomalies but "are related only with disease of the meninges, vessels and cord." Wieting, describing the origin of cavities, says: "The effect of the vascular disease is partly due to direct compression of round cell infiltration and partly to circulatory disturbances. Through the high-grade sclerotic thickening, there are set up circulatory disturbances, capillary stasis, insufficient nourishment and then atrophy of the nerve tissue. The vessels are significantly increased in the large initial neuroglia mass, their walls are thickened and the lumen is often completely obliterated so that they appear as round fibre-like groundwork. Nowhere about the periependymal neuroglia is a growth of glia cells noticed, nowhere is the cavity united with the central canal; nor has it an ependymal lining." Such changes as these have not been found in every combined case but they are frequently observed or closely resembled. Lues as an active factor in the production of syringomyelia has been recognized also by Raymond, Mann and Huismann. The most popular theory seems to rest on vascular and nutritional changes. There is no doubt that similar vascular lesions are found in cords free of cavitation; it is probable that a congenital predisposition may be required for its production, even in the presence of a luetic influence.

In consideration of the number of cases where cavities have been found at autopsy in combination with luetic processes and the frequency of syringomyelia syndrome in spinal lues and tabetic syndrome in syringomyelia, it is of interest to review the possibilities of making a clinical diagnosis of combined dis-

ease. The sensory, motor and trophic disorders of both diseases, have been found in each separately but certainly with differences in frequency, intensity, distribution and order of appearance. To illustrate, a positive history of infection with the later development of mesoblastic or parenchymatous lues with definite cephalic signs, and the appearance later of syringomyelia syndromes might indicate either an uncomplicated nervous syphilis, probably with central localization or a combined case with syringomyelia, originating most likely on a luetic basis. If with a positive history a syringomyelia syndrome appeared, it might be said that an isolated cavitary process was present because syphilis would not be expected to express itself first through a central lying lesion. Such cases are reported by Huismann and Jackson. Arnstein's case is clinically pure syringomyelia, with serological tests positive for syphilis. Tabetic signs on top of this simple type might be interpreted either as an extension of the gliosis to the posterior tract or as an independent tabes. The later appearance of cephalic signs might point still further to the predominance of actual tabes. Serological tests at each stage might help to determine the part played by luetic factors in the development of the whole clinical picture.

It is observed that interpretation of the clinical manifestations depends upon the history of infection and order of appearance of symptoms, the type and distribution of trophic disorders, the character of sensory changes and the presence of cephalic signs, especially the A. R. pupil. There is not much in the motor symptoms entirely peculiar to either disorder. Atrophic paresis in the upper extremities is more constant in syringomyelia than in tabes, and the ataxic gait and general hypotonia go with tabes. Trophic disorders are more characteristic. Involvement of the joints of the upper extremities, especially the shoulder or the wrist joint, localized edemas, painless whitlows and scoliosis, favor the presence of syringomyelia. As to sensory changes, the existence of dissociated sensibility alone cannot be used to diagnose cavitation. It is found in a variety of other conditions. It has been reported in cases of transverse myelitis;[20 21 22] in lesions and compressions of the cord;[23 24] cervical ribs;[25] tumors of the spinal cord;[26] Potts disease,[27] and in syphilis of the central nervous system.[28] Van Gehuchted states that it is no longer a symptom confined to syringomyelia but may be due to a lesion of the white substance as well as of the gray substance. Oppenheim reported cases of cerebro-spinal lues with dissociated sensibility clearing up under antiluetic treatment. When dissociated anesthesia is located in th upper extremities, of unsymmetrical, irregular, distribution and boundaries, syringomyelia must be suspected. Cases of syringomyelia have been reported with complete absence of dissociated sensibility,[29 30] and even with complete absence of any sensory change.[31] Paraesthesias and lightning pains are equally characteristic of both diseases, but differ usually in distribution.

The presence of cephalic signs in a questionable case must be an important criterion. However, signs of mental instability are reported in syringomyelia. Raviart describes a syringomyelia with ideas of persecution and suicide, and has observed other cases with psychic manifestations. Deny and Barbe found cavities in a catatonic. Combination with hysteria is reported by Prochazka, Leiman and Agostini. Other cases have been observed by Marie and Guillain, Burnhardt, Kufs, Redlich, Kaiser. The development of typical general paresis on a combined clinical picture leaves no doubt as to the presence of a luetic process. Of more concern are those cases of syringomyelia or bulbia with pupillary phenomena, anisocoria, myosis and A. R. pupil. Differences in the size of the pupils are reported in a number of cases, along with signs of bulbar involvement. Schlesinger found it in 12 per cent of his cases without other signs of sympathetic affection. Crocq described a case of simple syringomyelia with miosis. Rhein found in his case slight rotary nystagmus and optic atrophy, with contraction of the visual field. Bruhl reported pupillary differences in 30 per cent of the cases observed by him.

The significance of the Argyle Robertson pupil pointing positively to cerebro-spinal lues has been much disputed. Levi and Lauvineau described a case of syringomyelia with A. R. pupil. They left the question open as to whether there was an associated tabes but labeled it the first case of A. R. pupil in syringomyelia pure and simple. Rose and Lemaitre later observed two similar cases.

20. Haskovec, L.: Kotazie o Syringomelickem mrozstepani citlivosti j myelitis transversa Casop. lek. cesk., 1899, Vol. xxxviii, p. 455.
21. Yaroshevski S.: Phozr. psychiat., Neurol. S. Peterb., 1905, Vol. x, p. 81.
22. Angelozzi, L.: Reforma med., 1907, Vol. xxiii, p. 620.
23. Meyer, A.: Jour. Nerv. & Ment. Dis., 1912, Vol. xxix, p. 715.
24. Charcot, J. M.: Bul. Med., 1889, 28 Juni.
25. Barker, L. F.: Jour. Exper. Med., 1896, Vol. i, p. 348.
26. Fischer, O.: Ztschr. f. Heilk, 1911, Vol. xxii, p. 344.
27. Spiller, W. G.: Occasional Clinical Resemblance Between Vertebral Caries and Lumbo-Throcacic Syringomyelia, Phila., 195.
28. Southard, E. E. and Solomon, A. C.: Neurosyphilis, 1917, p. 146.
29 Bullard, W. N. and Thomas J. J.: Amer. J. Med. Sc., 1899, Vol. cxvii, p. 265.
30. Bramwell, B.: Clin. Studies, 1905, Vol. iii, p. 58.
31. Leclerc and Rimaud: Lyon Med., 1909, Vol. cxiii, p. 866.

They admit the possibility of syphilis and state that "it is classical to say that an A. R. pupil, when not accompanied by a peripheral lesion, is almost * * * * * exclusively syphilitic." Sicard and Galezowski described a muscular atrophy, dissociated sensibility in the upper extremities and an A. R. pupil on the left, in a nun with negative blood and spinal fluid Wassermann. They cite the case as indicating the possibility of an A. R. pupil developing on a non-luetic basis.

Raymond reports a similar case with spastic paresis of the left leg, dissociated sensibility and A. R. pupils. There had been a history of trauma in this case, but the author was of the opinion that the fixed pupil spoke more for syringomyelia than hematomyelia, and mentioned the possibility of a spinal lues. Mirallie found it in a case observed by him, and Plaschkes reports a case with A. R. pupils with typical syringomyelia and negative blood Wassermann. Munroe discussed the value and significance of the A. R. pupil from an anatomical standpoint, attributing it to degenerative changes in the nuclei of the nerves controlling the iris, so that it might arise from any properly located lesion. Bumke states that "the A. R. pupil points almost exclusively to parasyphilis." Babinsky believed that the A. R. pupil meant that the nervous system had at least been tainted with syphilis. De Massery said that the symptom was neither pathognomic of, nor constant in tabes. As to its occurrence in other diseases, Jellife and White say that it "has been observed, but chiefly in pre-Wassermann days, hence the absence of syphilis had not been proved; its presence in syringomyelia is anatomically conceivable;" * * * "Axenfeld found it one-sided in head injuries. Nonne found it in 9 cases of 510 alcoholics; yet isolated A. R. pupil in itself does not mean syphilis." Schaeffer mentions the possibility of a "neurotic or syringomyelia basis." Dejerine notes it associated with cases of progressive muscular atrophy, chronic poliomyelitis, epileptic attacks, catatonic stupor and hysterical crisis. With general opinion favoring, therefore, such a wide field for the A. R. pupil, apart from lues, its presence in selected cases of syringomyelia cannot be used dogmatically to indicate an associated process. On the other hand, cases of definite syringomyelia with isolated pupillary phenomena, invite serological examination to exclude syphilis.

In Feiling's case, where there was typical syringomyelia with an A. R. pupil and negative blood and spinal fluid Wassermann, one must either accept the origin of an A. R. pupil on a syringomyelia basis or consider the case a syringomyelia developing under luetic influence.

SUMMARY.

An attempt has been made to reveal the actual frequency of syringomyelia with syphilis of the central nervous system, dividing the cases into four groups: (1) Clinically observed cases of cerebro-spinal lues with syringomyelia syndromes leading to the suspicion of central localization of the luetic process or to a combination of two different processes; (2) a group of cases established clinically as syringomyelia, where cerebro-spinal lues syndromes were present and believed to arise on a syringomyelia basis; (3) anatomically combined syringomyelia and syphilis of the central nervous system, where combined disease had not been suspected during life; (4) those cases where syringomyelia and tabes had been diagnosed clinically and confirmed by autopsy.

The developmental relationship between the two processes has been traced, with consideration of the proposed theories, that (a) the two processes may be quite independent of each other, and (b) the two processes may be genetically related.

It is proposed that a tabetic syndrome may follow extension of a primary central gliosis into the posterior tracts, or that gliosis and cavity formation are secondary to lues. This may follow from a central lying syphiloma, from an extension of the separate interstitial gliosis of the posterior tracts to involve the centre of the cord or, more likely, from toxic luetic agents or nutritional disorders, either from altered blood and lymph circulation or compression from meningitis or posterior tract degeneration.

The possibility of making a diagnosis of combined disease during life, has been discussed. It is concluded that attention must be directed to a history of infection and the order of appearance of symptoms; to the type of motor disorders; to the nature and distribution of sensory changes (restricting the use of dissociated sensibility as a diagnostic aid); to the character and situation of trophic disorders, and to pupillary phenomena, particularly the significance of the Argyle-Robertson pupil.

ABSTRACT OF DISCUSSION.

Dr. M. L. Graves, Galveston: Personally I have never seen a case of syringomyelia which owed its origin to luetic infection. It will be recalled that the history of the case, O. O., charts and pathological specimens, which I presented with my paper, not only indicated luetic infection, but had a positive spinal fluid, and yet the post-mortem examination failed to exhibit any of the perivascular infiltrations or the nervous degenerations of the spirochetal infection. Careful search of the vascular, perivascular and nercous tissues, to our surprise gave no evidence of luetic infection, and we were forced to conclude that the syringomyelia was entirely independent of such cause in this case.

The second case, H. B., a healthy young farmer without history of a primary lesion and without any physical evidence whatsoever of the infection, gave a confusing positive Lange in the examination of the spinal fluid. I feel confident, though, that his syringomyelia has no such relationship.

James Collier, in his excellent article in Oxford Medicine, gives little credence to syphilis as a cause of this disease. He believes that it is congenitally installed, or occurs during the period of growth, and is probably a biological deficiency.

The cases presented by Dr. Uhler, however, carry strong argument and are well worthy of our serious consideration.

THE DIAGNOSIS AND TREATMENT OF GALL-BLADDER DISEASES.*

BY

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I have reviewed the case histories and one year after results of all acute and chronic infections of the gall-bladder, 138 cases in all, coming under the services of Dr. Pollok and myself at the King's Daughters' Hospital, Temple, Texas, 1915 to 1921, inclusive. It is largely on these studies that this paper is based.

The average age of the patients when they reached us was 45 years. Other statistics are similar, and this has some bearing on the diagnosis. Rarely do we have the gall-bladder involved in a patient under 20 years of age, while it is quite common in the very old. We operated upon one patient 86 years of age, and another 83 years, both of whom recovered and were relieved of their symptoms.

There were 103 females and 35 males, or about 3 females to every male.

Most of the patients gave a history of early, repeated attacks of so-called "biliousness." Their tongues were coated, there was a loss of appetite, they had bad tastes, felt full after eating and the bowels were constipated. On cutting down the diet and taking purgatives, they were relieved, only to be followed in time by other attacks. Finally, these attacks merged into one another and the patients were never free of symptoms. Then it was that the pathology was definitely determined to be in the gall-bladder. Then, as a rule, the most prominent symptoms related to the stomach. Food would seem to lodge in the stomach and cause a heavy fullness, often amounting to pain. The patient felt better with an empty stomach, and worse after taking food, especially sweets and greasy articles. There would be much gas and bloating in the epigastrum, which would be relieved by belching. Many of the patients had a tight, swollen, uncomfortable feeling in the region of the liver and gall-bladder. The eyes were yellowish tinged, and the skin muddy in color. After the disease had been in existence for a time, the bile became altered and the mucus or gall-stones were formed. When plugs of mucus, or stones, attempted to pass through the ducts, they gave rise to characteristic colics, accompanied by nausea and vomiting. When the cystic duct became blocked, the gall-bladder distended and often dilated, until it formed a tumor in the right hypochrondrium, which sometimes could be easily seen and readily palpated. When this was the case, percussion and deep pressure directly over the tumor gave rise to intense pain. If the distension became too great, the walls of the gall-bladder underwent gangrenous changes, and if not operated upon in time, rupture resulted. If there was blocking of the common duct, either from stone or pressure of an over-distended gall-bladder on the duct, jaundice developed.

When the infection was acute, the patient had rigors, fever, localized peritonitis in the liver region and a high leucocyte and poly count. Often the lower lobe of the right lung was involved as a result of the infection.

Most of our patients gave a history of focal infection antedating the gall-bladder symptoms. Some had had repeated attacks of appendicitis, others typhoid fever and most of them pyorrhoea of the gums, or chronic tonsilitis.

Nearly all our chronic cases were examined with the *x*-ray. In a few cases, stones were shown. These stones were very hard and no doubt had been in existence for a long time; otherwise they would hardly have made a shadow. In many of the cases, by drawing on the imagination, we could see a dim outline of the gall-bladder; but we often found it so where there was no disease. Consequently, we place very little direct value on the *x*-ray in diagnosis. However, it is of indirect value in ruling out affections of the stomach and the right kidney.

I have had no personal experience with the duodenal tube in diagnosing gall-bladder disease, but judging from the literature, its merits in this particular are as yet limited.

We should pay more attention to the prevention of the disease than we have in the past. Patients with bilious temperaments should be given painstaking general examinations. All points of focal infections should be eradicated. Outdoor exercise, plenty of water and a cholesterol-free diet, should be prescribed. In chronic bilious attacks, probably a medical biliary drainage would help to arrest the trouble.

When the gall-bladder has once become diseased, and permanent damage to the organ

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has resulted, only surgery can bring about a cure. However, non-surgical drainage and medical treatment may be of much value in getting the patient in safer condition for operation. In patients who, on account of their enfeebled condition or on account of some organic disease of other organs, can never submit to operation, these measures are strongly indicated as paliative; they often prolong life for an indefinite period.

In our series of cases (138), we regarded removal of the gall-bladder, whether the disease was acute or chronic, the operation of choice, just as removal of the appendix is the operation of choice in appendicitis. However, in the majority of cases in this series, we contented ourselves with mere drainage, as these patients had other major operations along with the drainage, or were such bad risks that complete operation might have more often been fraught with disaster. Surgeons are rather prone to err in the treatment of unfavorable cases and poor risks, by being too thorough. We are anxious to cure our patients at one sitting, and are liable to submit them to more than they can stand. We may do a finished operation but have a dead patient as a result.

In the acute cases, where the patients were ill with fever, had rapid pulse, localized peritonitis and sometimes jaundice, with high leucocyte and poly counts, we drained, and left the removal of the organs to a later date, if there should be return of symptoms. Drainage cases were much longer recovering from the operation, as well as from the disease, than when the gall-bladders were removed. They also required prolonged dieting and medical after-treatment. Here I think biliary medical drainage may be an additional aid by hastening the convalescence and rendering the cure more certain. However, in the very acute infections I feel that from the operative standpoint, as little as the surgeon can do to save life is the safest course.

Fleshy patients with short necks, flabby hearts, thick, short abdominal walls and gall-bladders situated deep under the costal arch and liver, are difficult to operate upon, especially to remove the gall-bladders, and are poor surgical risks. They take anesthetics badly, and are subject to shock, post-operative pneumonia and nephritis. In the acute infections in this class we drained in all except one case, and we lost that one from sepsis at the end of the third day. We had drained the gall-bladder several months previously, and were anxious this time to make a complete cure.

Where the patients were aged or enfeebled by other diseases, we generally drained both in the acute and chronic variety of cases, and most often did it under local anesthesia.

In the acute infections of the gall-bladder, we made no attempt to explore the general peritoneal cavity, unless there were definite indications. However, if the condition of the patient permitted, we removed the appendix, palpated the common duct for stones and examined the pancreas. If we found stones in the common duct, we removed them and drained the ducts as well as the gall-bladder. In most of the cases of chronic infections of the gall-bladder, especially those without stones, we made every effort consistent with safety to the patient to remove the organ. Cholecystectomy in this class of cases gives a higher percentage of permanent cures, and is attended with very slight if any greater mortality than cholecystostomy. A chronically infected gall-bladder may be a point of focal infection which sooner or later will lead to high blood pressure and chronic heart and kidney lesions.

Patients with deep jaundice, either acute or chronic, are very poor surgical risks, and the mortality is high, even in simple drainage operations. They die after operation, from hemorrhage, shock and suppression of liver function. In these we attempted to clear up the jaundice by medical treatment before operating; failing in this, we put them in the best shape possible for operation. It has been our custom to give these patients plenty of fluids by the mouth, and soda and glucose solution by the Murphy drip, as much as they can tolerate, several days before operating, in order to promote elimination and dilute the toxines. In the very grave risks, we gave 5 per cent soda glucose solution intravenously, or resorted to transfusion. To control hemorrhage we gave 20 grains of calcium lactate, by the mouth, every 4 hours, until the coagulability of blood came within safe limits, which generally took from 6 to 7 days. In the December, 1921, number of *Surgery, Gynecology and Obstetrics*, W. Walters of the Mayo Clinics, advocated intravenous injections of 5 to 10 c.c. of a 10 per cent calcium chloride solution, in redistilled water, daily for several days before operation, in addition to the calcium lactate by the mouth. It has its effect on the coagulability of the blood in three or four days, and in addition combines with the bile pigment circulating in blood, thereby reducing toxicity. In operating in these cases, we produced drainage as quickly as we could, operating under local anesthesia.

There is another class of gall-bladder trouble, called symptomless gall-stones. In these no or only slight, symptoms are present, unless a stone attempts to pass, and is not diagnosed until colic appears, or it is discovered

when examining the gall-bladder while operating in the abdomen. This trouble probably arises not from infection, but a chemical alteration of the bile, causing a precipitation of its salts. Females who have gone through one or more pregnancies, or have fibroid uteri, are usually the class affected. This would suggest disturbances of the internal secretions as the primary cause. This disease is also found, at times, in blood dyscrasias, such as anemia, either primary or secondary. Removal of the stones and drainage of the gall-bladder, will usually cure these cases, provided trauma from the gall-stones has not produced too much damage to the organ. Our method of handling these cases, when discovered after opening the abdomen for other reasons, was to remove the gall-bladder, if we could do it without much additional risk, and do it through the same incision. But if cholecystectomy was any more dangerous than cholecystostomy, we contented ourselves with the latter. If we could not operate upon the gall-bladder through the same incision, we made a stab-wound directly over the organ, and with one hand in the abdomen as a guide, pulled the top of the gall-bladder through the stab-wound, removed the stones and drained, as suggested by Howard Kelley a number of years ago. These cases have generally been cured.

It is often said that cholecystectomy is attended with no greater, or only slightly increased, mortality over cholecystostomy. This is true in simple, easy and good-risk patients, because there is scarcely any mortality to either. But in the complicated, difficult cases, or in the presence of acute infections, the death toll is much higher.

In conclusion, analyzing our 138 cases, 78 or 56.5 per cent had cholecystostomies, and 63, or 45 per cent, had cholecystectomies. Three had both cholecystostomy and cholecystectomy. There were stones, either in the gall-bladder, common duct or in both, 82 cases or 60 per cent; 18 cases, or 13 per cent, had other major operations, exclusive of appendectomy, at some time.

The mortality in our cholecystostomies was 5.1 per cent (4 cases). These case are here reported:

Case No. 1.—Mrs. R. C., age 46, entered the hospital December 6, 1917, with a history of cholecystitis and ulcer of the duodenum. She was very ill with general peritonitis and was in a state of shock. The urine was negative, the blood count was, 18,000 white cells and 93 polys. She was operated upon seven days later, when she had improved. Operative findings were, abscess between the gall-bladder and the duodenum, with abscess communicating with the duodenum, and free pus in the general peritoneal cavity. The operation consisted of closure of the opening in the duodenum, cholecystostomy and free drainage. The patient succumbed three days later, from sepsis.

Case No. 2.—Mrs. J. W. S., age 65, entered the hospital January 14, 1918, with a gall-bladder history extending back 20 years. On entrance, she was very weak, emaciated, intensely jaundiced, with symptoms of acute gall-bladder infection. Urinary analysis showed a specific gravity of 1024, albumen moderate, no sugar, bile heavy, casts and an abundance of granules. Blood count showed 8,000 white cells and 80 polys. Operation was resorted to seven days later, showing acute cholecystitis and pancreatitis. A cholecystostomy was done. Death resulted ten days later from exhaustion.

Case No. 3.—Miss A. N., age 22, entered the hospital March 16, 1919, with a history of influenza three months before, shortly following which she had several typical attacks of acute cholecystitis, and was never free of symptoms in the intervals. Present attack began seven days before. On entering the hospital, the patient was very ill, with fever, rapid pulse, constant nausea and vomiting, marked jaundice, pain and muscular rigidity, the latter most marked over the gall-bladder and appendix area. The urine was negative; the blood count, 13,000 white cells and 95 polys. Operation three days later revealed subacute appendicitis, acute cholecystitis and pancreatitis. The operation consisted of an appendectomy and a cholecystostomy. The patient died three days later, from sepsis.

Case No. 4.—Mr. H. B. S., age 56, entered the hospital November 6, 1921. He had been fleshy, but had lost 48 pounds in the past year. For 12 months there had been acute attacks of cholecystitis, right kidney stones and enlarged prostate. The present attack began three weeks before. On entrance, the patient was having repeated attacks of chills, fever, pain over the gall-bladder and right kidney area, radiating to the bladder, and difficult urination. The patient was jaundiced and very feeble. Urinary analysis showed a specific gravity of 1030, with no albumen, no sugar, no casts, a few red blood cells. Culture of the urine from the bladder showed C. B. Cystoscopic examination showed cystitis, enlarged prostate, no growth in the urine from either kidney on culture, and no stone in the kidney on *x*-ray examination. The patient gradually grew worse. Six days after entrance, the blood count showed 22,800 white cells and 95 polys. A diagnosis of acute cholecystitis, enlarged prostate and pyorrhoea was made. Operative findings were, gall-bladder acutely inflamed and full of pus. The patient died three days later, from general sepsis.

The mortality in our cholecystectomies was 3.1 per cent (2 cases), as follows:

Case No. 5.—Mrs. J. P., age 44, fleshy, entered the hospital July 16, 1920. Six months previous there had been an appendectomy, left oöphorectomy, dermoid cyst the size of foetal head removed, and cholecystostomy with stones through a stab wound. For the past three months there had been attacks of pain in the epigastrium, nausea and vomiting, coming on about five days before the menstrual periods, which were relieved during the periods, and returning for two or three days after cessation of the flow. She was well in the intervals between periods. The present attacks began seven days ago, when her period was on. On entrance, the patient complained of constant, intense pain in the epigastrium, nausea and vomiting, rapid pulse, fever and prostration. Urinary analysis showed a specific gravity of 1030; albumen, a trace; no sugar and a few granular casts. The blood count showed 14,800 white cells and 82 polys. Operation five days later disclosed the gall-bladder contracted, buried under dense adhesions, deep under the costal arch and liver, distended with pus and containing one soft stone.

Cholecystostomy was done, with much difficulty, and free drainage established. Death came at the end of the third day, from sepsis.

Case No. 6.—Mrs. E. A., age 65, entered the hospital July 27, 1921, giving a history of gaseous indigestion for twenty-five years. During the past five years there had been acute attacks of cholecystitis with rigors, high fever, nausea, vomiting, colics and jaundice. The present spell began seven weeks ago, the fever reaching as high as 105° F. During the past week she has been much improved. On entrance, she was emaciated, unable to eat because the food caused pain, feeble, jaundiced and much tenderness and rigidity over the epigastrium, especially the gall-bladder area. Operation six days after admission, disclosed a gall-bladder buried under firm adhesions, contracted and contained one stone, the size of a goose egg, in the common duct. The operation consisted of a cholecystectomy, the removal of the stone and drainage of the common duct. Death came six days later, the result of asthenia.

Of the cholecystostomies, 63 cases were heard from at the end of a year, and 53, or 84 per cent, reported themselves much improved, or enjoying good health.

Of the cholecystectomies, 46 cases were heard from at the end of a year, and 43, or 93 per cent, reported themselves much improved or enjoying good health. Two patients reported no improvement, and one died eight months after dismissal from the hospital, of pneumonia. She was free of symptoms up to the time of her fatal illness.

INDICATIONS FOR REMOVAL OF THE GALL-BLADDER.*

BY

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I know of no infallible diagnostic chart, nor of any inerrable rule of surgical procedure, whereby the surgeon may be guided in deciding in advance of operation, whether to remove or to drain the gall-bladder. This statement may seem to disregard the recent great advances made in the diagnosis and surgery of the gall-bladder, but after considerable experience, over a period of twenty-two years, and much study and observation, I am fully persuaded that the indications for the removal of a gall-bladder, barring those cases where the poor physical condition of the patient will permit drainage only, may be determined only by inspection and palpation of the gall-bladder itself. The choice between cholecystostomy and cholecystectomy, must be based upon (1) the actual pathological and histological condition of the gall-bladder; (2) the pathological and histological condition of the cystic, common and hepatic ducts; (3) the pathological condition of the liver and pancreas, and (4) the judgment of the surgeon as to whether the patient can safely undergo, or with the best prospects endure the operation decided upon.

We are all familiar with the different theories as to Nature's design in constructing the gall-bladder, and the speculations as to its physiological function, but whatever our beliefs are as to its anatomical structure and physiological purpose, we are compelled to regard it as a diverticulum of the hepatico-duodenal biliary passage; it must have some important function.

There is no doubt but there is a sphincteric valvular action about the papilla of Vater which results, in response to nature's necessities, in closing the duodenal opening of the common duct, with the consequent damming back of the bile into the gall-bladder. When a gall-bladder which has been functioning by taking care of this overflow is removed, the common duct undergoes a compensatory dilatation, the ampulla of Vater is expanded and there is a damming back of bile in the common duct and into the duct of Wirsung; moreover, the portion of the cystic duct which is often left undergoes dilatation until it becomes a miniature gall-bladder. This miniature gall-bladder, formed by the ligated ends of the cystic duct, may become the receptacle of gall-stones of hepatic origin or for stones formed in the same manner as in the gall-bladder. The common duct may harbor stones, and the bile may back up the duct of Wirsung and seriously interfere with pancreatic function. It has been assumed by many that when stones are found in the stump of the cystic duct following cholecystectomies, they were left behind at the time of operation. That is a sorry comment. It emphasizes a superficial and careless manner of accounting for the number of such cases.

The positive indications for cholecystectomy are, in the order stated, conditions referable to the gall-bladder itself: (1) When morbid changes in the gall-bladder have progressed to the stage that, in the judgment of the surgeon, it is beyond recovery, or restoration of function; (2) where the condition is such that repeated attacks of cholecystitis is most probable (the judgment of the surgeon is greatly influenced here by the clinical history of the patient); (3) where conditions are such as to cause the surgeon to expect the subsequent formation of gall-stones, and (4) where there is evidence of malignant degeneration, or where in the judgment of the operator malignancy is probable.

It must be admitted that cholecystostomy may be an emergency procedure in the presence of any of the above named conditions, in which case cholecystectomy becomes a secondary procedure of choice.

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The cystic duct is a very important factor in the pathology of the gall-bladder and, therefore, must be considered in relationship to its surgery. The gall-bladder can function only when the cystic duct is patent. If its non-patency is due to stone, adhesions or kink, or the pressure from enlarged lymphatic glands, the condition may be corrected and a non-compressible gall-bladder converted into one capable of functioning. If, however, there is present such pathological changes in the duct as would lead the surgeon to believe that it would remain permanently closed, the gall-bladder becomes a useless organ and should be removed. What I have said likewise applies to the common duct. A compressible gall-bladder is a functioning gall-bladder; in other words, as long as it is capable of filling up and emptying itself it is carrying on in a manner that may be more important than some of us think. Before determining to remove a gall-bladder, except in a few very definite conditions, an examination of the cystic and common ducts, by inspection and palpation, should be made.

By way of digression, permit me to say a word concerning the surgical technique of gall-bladder removal and drainage. For years the master surgeons have been telling us that cholecystectomy is not an operation for an inexperienced surgeon. I can remember when the choice between cholecystostomy and cholecystectomy, was determined more upon the technical skill and dexterity of the surgeon than upon pathological conditions. The pathological check on specimens has shown that many useful gall-bladders have been removed, and we are continuously being reminded of the many gall-bladders which have been drained and which should have been removed.

There is no doubt but that a cholecystectomy is best done from below up, with an exposure which permits good ocular and tactile examination of the cystic and common ducts, before the choice of procedure is made.

When we speak of the pathological condition of the liver and pancreas, we refer more to the contra-indications than to the positive indications for cholecystectomy. The gall-bladder must act advantageously upon the product carried off through the hepatic ducts, in both acute and chronic infectious hepatitis, and likewise on the products brought out by the duct of Wirsung in cases of acute and chronic pancretitis. We know that for some reason the sphincter muscle of Archibald, at the ampulla of Vater, shuts off the toxic bile and pancreatic secretions from the intestinal tract, and we know that these same toxic products may be drained by cholecystostomy with at least temporary advantage to the patient. We are not quite sure just what role the gall-bladder plays in rendering less toxic the products of hepatitis and pancreatitis, but we do know that if the gall-bladder is removed, under pressure of production the infected bile and pancreatic secretion is forced into the intestinal tract or in some manner absorbed, to the very serious disadvantage of the patient.

I have endeavored to discuss, in a general way, the positive indications for cholecystectomy. There are particular types of cases where the choice between cholecystostomy and cholecystectomy must be decided with special regard to the individual patient. There was a time, in the not distant past, when we were told that if in doubt we should remove the gall-bladder. I am of the opinion that it is better surgery, when in doubt, to drain. Drainage will usually afford all of the immediate advantages of removal, and if an error is made, a cholecystectomy can be done as a secondary operation.

FOCAL INFECTIONS AS APPLIED TO GYNECOLOGICAL PRACTICE.*

BY

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According to Billings, "A focus of infection is a circumscribed area of tissue infected with pathogenic micro-organisms."

The brilliant and important work of Billings, Rosenow and others along this line, has given to every physician, regardless of his specialty, a new thought and a definite approach to the solution of many problems not before properly interpreted. However, it cannot be charged that patients have often suffered on account of this lack of knowledge. The theory of focal infections and the suggested affinity of certain strains of micro-organisms for certain tissues of the body, serve more to explain the relationship of certain lesions and conditions than it does to put a new method of treatment into our hands.

Speaking directly with reference to gynecology, practitioners have always recognized the fact that certain general conditions were associated with certain local lesions, and have proceeded to the correction of the local lesion, depending, perhaps, more upon the psychological effect of the thing done than upon the removal of a source of infection. The annals of medicine are replete with instances where the hand of the dector has been led by observation and experience to do the needful thing, the correct explanation of the mode of its accomplishment following long afterward.

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The medical mind and the lay mind have, from time to time, held to ideas closely approaching the theory of focal infection, but the lay mind was, perhaps, too little trained, while the medical mind was much too complex to grasp it or to assimilate it, it not being, apparently, quite compatible with some theories already held. The very fact of our full knowledge of the blood and lymphatic systems, together with our knowledge of the causes of infections and the signs and symptoms of inflammation, no doubt, deferred somewhat our complete acceptance of the theory. It was a difficult matter to connect the primary focus with some distant secondary focus, or to understand that painful joints and nerves could be the result of some distant focus of infection, without the classical signs and symptoms of an inflammatory reaction. However, this theory, in my opinion, differs from all the theories that have ever been accepted by the medical profession, in that it is not likely to be overworked, if to be overworked means that a thorough search of every patient will be made for possible foci of infection. It is already common practice to look for foci of infection in the tonsils, teeth, gums, sinuses, and other parts of the body.

Billings classifies foci of infection as primary and secondary. Primary foci are usually located in tissues communicating with the mucous or cutaneous surfaces. Secondary foci are the direct result of infection from other foci, through contiguous tissue, or at a distance through the blood stream or lymph channels. With this definition clearly in mind, we might recall a bit of Wilsonian philosophy, to look not to the limitless stretches of the seas for the submarines, but to find the hornet's nest and clear them out.

The female genital tract is subject to infection by almost all kinds of micro-organisms, particularly gonococci, staphylococci, streptococci and colon bacilli. The gonococcus is largely a surface organism and is prone to infect the ducts and glands. Infection of Skene's glands is the most persistent gonorrhoeal lesion connected with the genital tract. The symptoms of this infection are, frequent, burning urination and persistent vaginal discharge. The diagnosis can usually be made by pressing the lower end of the urethra from behind forward and collecting the pus for microscopic examination. The ducts of these glands open on either side of the urinary meatus.

The ducts of Bartholin's glands open external to the hymen or just below the caruncle. The ducts alone may be infected or the infection may extend into the gland. The diagnosis here can usually be made by a history of local swelling and pain, and by obtaining a smear.

The Fallopian tubes as foci of infection result from gonorrhoea in about 70 per cent of cases. The tubes tend to become sterile in from six weeks to three months. Gonorrhoeal infection of the endometrium usually runs a short course, but may be repeatedly relighted from the tubes. Streptococci also infect the tubes. They require ports of entry, such as obstetric injuries, lacerations of the cervix by abortions or labor or through instrumentation. Streptococci and staphylococci pass up through the lymphatics, usually producing an exudate at the base of the broad ligaments, and often many small abscesses in the muscle of the uterus. In these situations the micro-organisms have been known to live many years.

Tubercle bacilli have been known to lie dormant in tuberculous salpingitis many years. This constitutes the most usual focus of infection in tuberculous peritonitis.

The chief lesion to which I wish to direct attention, is the infected cervix. An infected cervix is usually a lacerated cervix, but not always. The cervical mucosa contains a large number of deep racemose glands, and is markedly susceptible to infection, while the mucosa of the body of the uterus is practically immune.

The most common of the infecting agents are the gonococci and staphylococci, usually deprived from the male urethra and prostate. The streptococci are usually introduced by examinations, instrumentations or operations, and colon bacilli are probably introduced late, as a mixed infection. The streptococci and staphylococci require ports of entry and are, therefore, usually found infecting the lacerated cervix, from which point they pass into the lymphatics, infecting the utero-sacral ligaments, the musculature of the uterus, the peritubular and ovarian tissues. They live in these localities almost indefinitely, and their chances for continuing morbid processes are almost unlimited.

Chronic infections of the cervix, commonly termed endo-cervicitis, cervicitis, cervical erosions, cervical catarrh and cystic degeneration of the cervix, constitute the particular lesions which are the source of supply of recurrent infection to all the pelvic structures and to more distant organs and tissues.

There was a time when a long train of symptoms, consisting of a loss of strength and weight, chronic constipation, neuralgic pains in various parts of the body and, at times, continued low fevers and, finally, neurasthenia and hysteria, were attributed to the plugs of scar tissue in the angles of cervical lacerations. All of the old authors

noted that the symptoms were especially severe if the plugs of scar tissue were sensitive, or if the laceration was associated with backache.

Infected cervices, especially those of the lacerated and cystic type, do not show any tendency to spontaneous cure. I have seen a number of bed-ridden, hysterical women, without other demonstrable cause for their illness, restored to health by the simple expedient of giving proper treatment to infected cervices. I have seen a number of cases of persistent urticaria clear up in the same way. No doubt many of the disagreeable symptoms associated with the menopause are brought about by the increased amount of fibrous tissue deposited in the uterus by means of cervical infection. A great many more distant infections can be traced to foci of infection in the genital tract. I firmly believe that the large, white, fibrous appendix, frequently found in association with chronic pelvic infections, is the result of repeated irritation, if not infection, incident to this environment. Joint structures, tendon sheaths and bursae, are particularly liable to be attacked by gonococci from the genital tract, as is also the endocardium.

Streptococci from the genital tract frequently attack the kidneys and produce infarcts or glomeruli nephritis. The special affinity of certain strains of streptococci for certain tissues of the body, is not very well understood. Rosenow has pointed out that streptococci cultured in the gall-bladder have a special affinity for muscular tissue; hence, the rather frequent association of myocarditis with cholecystitis. If the converse of this is true, we might look upon the foci of infection in the uterine wall as sources of infection for the gall-bladder, and this in turn might explain the rather frequent finding of gall-stones in women who have borne many children, because an infection following labor is apt to be streptococcic.

It is a matter of common observation that a cervix that is not, and has not been infected, does not produce any of the symptoms almost constantly associated with an infected cervix, such as leucorrhoea, which is mucoid in character, usually profuse and more abundant just before and just after menstruation; lumbo-sacral backache of all degrees, where the infection is being fed into the utero-sacral ligaments, and metrorrhagia, dysmenorrhoea and, frequently, sterility, where the muscle of the uterus is infected.

The infected uterus with small abscesses in the musculature of the fundus, is secondary to a primarily infected cervix.

The condition known as fibrosi uteri, is the end product of an infection of the uterine walls through an infected cervix. The muscle fibers are replaced by fibrous tissue to a very large extent. The chief symptoms of this condition are an enlarged and hard uterus, associated with hemorrhage, dysmenorrhoea and leucorrhoea. The lumbo-sacral backache and pains in illiac regions, in these cases, are usually quite distressing. In the words of Bennett, "To this class belong a large proportion of the population of the sofa and bathchair type, nervous, debilitated and dyspeptic females, who wander from medical man to medical man seeking relief from weakness."

Foci of infection about the genital tract should be treated early and thoroughly. Medical and local treatment are sometimes sufficient. An infected cervix should be repaired, resected or, in extreme cases, amputated. Cauterization with thermo-cautery, when there is no laceration, will sometimes effect a cure, especially in the cystic type. The uterus, with infection in the musculature of the fundus, must sometimes be reseeted, along with the removal of the tubes and, in cases of fibrous uterus, a supravaginal hysterectomy will often be required. The ovaries are seldom the site of foci of infection.

AMENORRHOEA: ITS SIGNIFICANCE AND TREATMENT.*

BY

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By the term amenorrhoea is meant the absence of menstrual flow in women of suitable age for that function, who are not pregnant. According to Montgomery there are four different varieties; complete, when menstruation has ceased entirely; comparative, when it appears only occasionally; primary, when there has been no menstruation at the age of puberty, and none subsequently, and secondary, when it is transitory or accidental, or having already appeared, ceases.

Amenorrhoea is physiologic before puberty, during the months of pregnancy and after the menopause. There is, however, according to Graves, some debate as to whether the amenorrhoea that accompanies the first months of lactation is physiologic or pathologic.

There is, or should be, a keen distinction between amenorrhoea, retention of menses, and suppression of menses. In true amenorrhoea all pelvic phenomena characteristic of menstruation are absent. The causative stimulus, whatever it may be, is apparently lacking, so that there is a complete absence of the vascular, endometrial and other changes normally associated with menstruation. On

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the other hand, all these changes may be present in certain cases, in which there is no menstrual discharge whatsoever.

Mechanical occlusion of the genital canal, through which there can be no flow of menstrual blood, is a retention of the menses. Suppression of menses is the cessation in the individual of the menstrual flow after it has once been inaugurated.

The cause of amenorrhoea is hard to determine, on account of our lack of knowledge of the forces which produce the periodical recurrence of menstruation. For convenience and clarity, amenorrhoea may be classified as local or general.

Under local causes would come: (1) Congenital absence or malformation of the generative organs, and (2) acquired pathological conditions of the generative organs.

Under general causes: (1) Physiological (puberty, menopause, pregnancy and lactation); (2) functional (sudden shock, excitement, chilling or wetting of the skin, and change of climate); (3) acute infectious diseases (typhoid, pneumonia, etc); (4) constitutional (tuberculosis, chlorosis, diabetes, etc); (5) mental disturbances (especially insanity), and (6) disorders of the ductless glands.

Amenorrhoea is physiologic before pubergarded only as a condition arising from a large number of underlying causes. Despite the fact that the laity is more than concerned with the gravity of its existence, and is of the opinion that if menstruation is not established the patient invariably becomes a "consumptive" or contracts some other serious malady, it has yet to be proven that the nonrecurrence of menstruation in such cases is detrimental to the health of the individual. The theory that menstruation is a cleansing process, ridding the body of poisonous materials, and that amenorrhoea allows the retention of such products, thereby injuring the health, has not been supported by any scientific evidence.

Adiposity is given by almost all textbooks on gynecology as one of the causes of amenorrhoea, and the relation which exists between obesity and absence of the menstrual flow has provoked much interest. In late research work of Paulesca, Cushing and Frolich, however, much enlightenment has come to us on this phase of the problem. In their theory of obesity and sexual hypoplasia, they state that adiposity is a result of disease of the pituitary body. Frolich furthermore states that the physiological manifestation of this hypoplasia is amenorrhoea.

DIAGNOSIS.

There is no problem so far as the diagnosis of amenorrhoea is concerned. The causative factor is the element that will give us the most concern.

Mechanical occlusion of the genital canal, causing retention of menses, is easily diagnosed by examination of the organs, preferably under anesthesia, especially in young, unmarried women who have presented grave symptoms of menstrual molimina.

Symptomatically, amenorrhoea may present no other abnormality than absence of the menses. The patient may complain of headache, heat flashes, nausea and vomiting. With concomitant nervous disorders, however, acute manifestations of hysteria, especially, may form the basis of a positive but well-borne transitory symptom, particularly when the impending general disorder is the cause of the amenorrhoea.

The menstrual flow may be substituted for by a profuse leucorrhoea, of a thick, tenacious or viscid substance of a yellow, or greenish-yellow, color and offensive odor.

TREATMENT.

It should be kept in mind that amenorrhoea is a symptom, and its cause should be diligently sought as a preliminary measure to treatment.

Amenorrhoea due to disorders of the ductless glands may be diagnosed by a careful consideration of definite symptoms which point toward functional disturbance of the internal secretory glands. No snapshot diagnosis, however, should be made with regard to the non-functioning of the thyroid, pituitary and other internal secretory glands, until after a complete examination has been made. The elimination of incipient tuberculosis, and a complete blood analysis, are supplemental aids in determining the causative factors. Physiological amenorrhoea requires no treatment.

Pathological amenorrhoea may be treated under the following outline: First, underlying causes; second, general treatment; third, medicinal treatment; fourth, organotherapy.

The first step is, as is the case in any treatment, to remove the cause. The treatment of obstruction of the vaginal outlet is, of course, surgical. Where amenorrhoea exists only as an incident in the course of an acute infectious or chronic disease, no treatment is required. I cannot stress too vigorously the need of observing all general measures that go toward building up the patient's health—fresh air, open, outdoor life and recreation; proper diet, with intensive study of particular food values, and proper clothing, shoes and baths. Young women suffering from mental fatigue, who are overworked and under-nourished, are candidates for this very condition, amenorrhoea.

Hematics in the medical treatment of amenorrhoea, are iron and arsenic. They are given either intravenously or intramuscularly. Emmenagogues I find absolutely of no value in its treatment. The reproductive organs of the female are closely allied with a number of endocrine glands. Of these, the ovary is the most important but the thyroid, pituitary, mammary and the suprarenals have a marked influence.

Organotherapy is only a species of a drug treatment, with definite chemical substances. Esch explains that the action of the organ extracts is often more general than specific, and that it is due to the protein bodies in them.

From the theories of Novak, Montgomery, Esch, Frölich and others, the ovary is the organ which directly controls menstruation; and it is only logical that disorders of the menses should be treated by the administration of the active principle of the ovary. The fact that corporalutea are not present until menstruation appears, would justify our belief in the theory that corpus luteum is most actively concerned with the function of menstruation.

My own experience in the treatment of amenorrhoea due to disturbance of the ductless glands, has been most gratifying in the use of the extracts of ovary, particularly the corpus luteum. Where the patient tends greatly toward obesity, the treatment consists of pluraglandular medication, using the thyroid, pituitary and ovary. Corpus luteum is always given where hypodermic medication is possible. Two grains once daily are given.

CASE REPORT.

Case No. 1.—Mrs. H., age 28, married, general health good, with blood and blood pressure normal and urinalysis negative. Two years previous to this time she had a child born dead, due to a central placenta previa complication. She had not menstruated since that time. She was given corpus lutemu, two grains, once daily, hypodermatically, and phosphorus for the nerves. In four weeks menstruation was re-established. Patient continued the use of corpus luteum per mouth for several months with satisfactory menstrual appearance monthly.

Case No. 2.—Miss C., age 20. When seen she had not menstruated in eleven months, had gained about thirty pounds in flesh, and blood and blood pressure were normal. She had always been regular until this time. She was given corpus luteum once daily, hypodermatically, supplemented with extract of mammary, thyroid and pituitary, three grains three times daily. She menstruated in five weeks. Pluraglandular treatment was continued for several months more with entire satisfaction. Menstruation was regular with a reduction in weight of about twenty pounds.

REFERENCES.

1. Montgomery: SaJous's, Vol. i, p. 600.
2. Novak: "Menstruation and Its Disorders," chapter 18, p. 167.
3. Novak: "Menstruation and Its Disorders," chapter 18, p. 168.

ABSTRACT OF DISCUSSION.

Dr. E. W. Bertner, Houston: I do not think we have in the past paid as much attention to the endocrines in menstrual disorders as we should. We are often consulted by patients who present atypical histories so well described in the paper. We overlook the fact that they are of endocrine origin. The work of Cushing has probably been the most valuable along this line that has come into our hands. Esch and Hermann have also added much to available literature. Esch has brought out the fact that the active principle of the ovary and corpus luteum, is most difficult to extract, and he feels that many of the results obtained by the use of the preparations now on the market are due to the foreign protein elements supplied. He has proven this by a series of experiments in animals, in which he has used breast milk, demonstrating excellent results in the premature development of the mammary glands and the sexual organs. This he has also applied clinically, with the same results. Recently I had an opportunity to work with a prominent endocrinologist who had written several of the pharmaceutical houses for information regarding their methods of preparation and collection of ovaries for the manufacture of the preparations now on the market. Most of them manufactured the drug along the same lines, but none of them were sure that they were getting the active principle.

In one case, a laboratory technician was sent with one of the men from the pharmaceutical house to collect corpus luteum. The specimens obtained were brought to the laboratory and were sectioned, to find that in a number of instances in addition to what appeared to be corpus luteum, many retroperitoneal glands were obtained, which would tend to prove Esch's extensive studies. I feel that we are not getting the results that we should, and in many cases the results obtained are not from the active principle of the gland but from foreign proteins which are being injected. No one knows how soon after death the active principle in the case of the ovary is transformed into another substance. If the results obtained are from the active principle it must be accidental.

At present we are only touching the surfaces of a most important subject, and until someone devises a method whereby the active principle of this extensive chain of organs can be extracted, we are still in the dark.

DIVISION OF FEES VS. "FEE SPLITTING."

Another matter that is adding to the dissatisfaction of the public with the costs of medicine, is the unfortunate, systematic, well-financed campaign of publicity that has for some time been carried on in the public press against so-called "fee splitting." Actual splitting of a fee earned by one physician with another who has not earned it is, of course, unethical and dishonest. Commissions, rebates or similar practices, under any other name are also reprehensible and dishonest. The equitable division or apportionment of a reasonable fee between two or more physicians who have rendered service to any patient always has been, and is both ethical and honest if done with the patient's knowledge, and is specially provided for in the Principles of Medical Ethics of the American Medical Association. The unfortunate and misleading character of the propaganda referred to is due to the fact that by indirection and, in some instances, specifically, "fee splitting" is made to include both the honest and dishonest methods of division of fees. It will be curious to see how long a complacent medical profession will permit this farce to be perpetrated from the public platform and the public press in its name.—*Calif. State Jour. Med.*, Feb., 1923.

REST CURE.*

BY

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The rest cure, at first thought, to most physicians, is more or less a trivial matter; it is of too little importance to be given much attention. Others find it too complicated. It possibly does not provide the quick relief an emergency operation gives, or the relief that follows the removal of a chronically diseased organ. I dare say, however, that it stands second to none in final results. I must confess that I do not like the term. "Rest" is one of the things we endeavor to give, and we lay particular stress upon it, but we do not always get the "Cure." We hope to cure and in many cases do cure. I would prefer to say, "Rest and Reconstruction," for that is what we really attempt to do. The cure naturally follows, as it does in medical and surgical procedure, when satisfactory results are obtained.

To me the work is as interesting as the most delicate operation is to the skilled surgeon. To restore, or rather, to reconstruct an old, worn-out piece of humanity to a newer state of comfortable living, is well worth all our painstaking efforts. I believe there are many patients who have passed to earlier graves than was necessary, who might easily have been restored to many years of worthwhile living, had the proper reconstructive efforts been attempted. In the past twelve years I have had over 1,500 rest-cure patients, and in reviewing these cases I feel that my statements are not overdrawn.

It seems easier to allow a worn-out, thin, anemic person who does not respond to surgery or medicine, to die. This is rather expected by family and friends, and the attending physician receives no censure. I have seen some such people come back to life, so to speak, and this result was accomplished by painstaking directions in proper rest, systematic diet and hygiene.

Rest and diet rehabilitate the nervous system and increase the metabolism. Worn-out tissues are repaired only by proper nitrogenous foods. During rest less food is required by the body, therefore more is applied to reconstructing tissues. This rebuilding of tissue requires time, especially when the nervous system is involved. The nervous mechanism is the most delicate and complicated of the body, and for this reason it takes much longer to repair it. It is because of this fact that the nervous symptoms do not always disappear after six or eight weeks rest cure, even though the patient has gained fifteen or twenty pounds in weight. These symptoms often decrease later, provided the patient is coached properly with reference to rest, diet and exercise.

After having determined that a patient needs the rest cure, and consent has been obtained, it is usually easy enough to keep him quiet in bed. I feel that this is a very important step. But often our greatest trouble is in the feeding. I believe most of the failures to obtain results are due to the haphazard way in which the food is given. Exactness in the time of feeding and the quantities of food to be given are, in my opinion, the keynotes to success in rest cures.

Each case is peculiar to itself and must be worked out accordingly. A patient unintentionally will often get the physician off of a given schedule if he is not very watchful, and this will sometimes turn near success into failure. In this connection, it is necessary to see that proper hygiene and passive exercise, such as massage, is given.

No limit of time should be set for the rest cure. There seems to be a rather definite idea that a period of six weeks should suffice; at least, it has been so with my patients. This is sometimes a detriment, because there are many who need more time; and they are often not willing to take more than the predetermined six weeks. One of my cases lasted nearly a year. Inasmuch as this case was rather unusual, both as to time and the remarkable results obtained, I think it worth reporting.

Case No. 1.—This patient was a woman, about 25 years of age. She was educated in one of the northern schools and enjoyed her educational advantages more than does the usual student. Her father and mother were highly educated but physically under par. All of her sisters and some of her brothers were inclined to be delicate. The patient had developed a slight stomach and intestinal disturbance, which gradually grew in intensity until she was unable to eat without marked distress in the stomach and a tendency to looseness of the bowels. Her food was gradually cut down until she was practically taking nothing. She was no longer able to enjoy any of her books, as reading upset her nervously. She had been treated by several very excellent physicians, chiefly by means of medicine. She had become very thin and anemic; in fact, a mere skeleton. Some had given her up as a hopeless case of tuberculous intestinal infection. I was unable to find any definite lesion. I put her in the hospital and attempted to feed her. This was unusually slow and tedious, but in the course of a few weeks she gained eleven pounds. Then we had considerable difficulty, her stomach and intestines refusing to take care of the food; she lost all the weight she had gained. The next attempt was more successful. She finally gained over 30 pounds and returned home the picture of health. She has become the only really well member of the family.

I believe strongly that all aches and pains in the abdomen do not mean appendicitis, gall-bladder trouble, adhesions, ulcers and

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, El Paso, May 11, 1922.

the various lesions which usually call for surgery. We may have what I have termed malnutrition pains. The following case will illustrate this condition:

Case No. 2.—Mrs. D., age 56 years, mother of several children, had had a life full of domestic responsibilities and social welfare activities. She was far above the average in cultural attainments, and naturally devoted much time to educational study. This, coupled with her devotion to church and home life, made the strain unusual for her. A few years previous to the time I saw her she had had her appendix removed, and had undergone a pelvic operation. For about two years she had been leaving off some of her activities, due to no one peculiar disease or ailment, but because of what we often term "ill health." She gradually ate less, due to more or less stomach or intestinal disturbance. These symptoms increased until the abdominal pains were so severe, after taking even the smallest amount of nourishment, that it was often necessary to resort to morphine. The attending physician feared extensive adhesions with partial obstruction. She had been reduced in weight from 110 pounds to 70 pounds. She was taken East for further examination, and an operation if necessary. The consulting physician believed it was a case of malnutrition and advised rest and diet. This was at once started, even though it gave much distress. She returned in a few days and I continued the treatment. In a few weeks we were rewarded by a gain of 45 pounds. Her pains disappeared and she has since enjoyed a normal life.

I have had a few such cases, and they have impressed me very much. Most of these patients have been too weak for exploratory operations and, in a sense, their weakness has been a blessing. Nourishment and rest were their only allies and, when properly given, often accomplished wonders.

Case No. 3.—Three years ago I was called to see a man, aged 60 years, who had had several severe hemorrhages from the stomach or duodenum. He had gradually lost a great deal of weight, had no appetite, and was pale and cachectic. The *x*-ray showed no evidence of ulcer or malignancy. His clinical picture, nevertheless, impressed one strongly of malignancy. His physician believed this to be the case, but inasmuch as we were not positive, we took the benefit of the doubt and attempted to nourish him in a gradual, slow form of forced feeding. In a few weeks we were gratified to find our patient had gained many pounds in weight and was slowly gaining his strength. He is now at his work daily.

In 1917, I reported five cases in the *New York Medical Journal,* which had the clinical picture of cancer, but which proved to be malnutrition instead, needing only rest and diet. I have since had a few similar cases. Such results make one hesitate to diagnose malignancy unless a definite lesion is demonstrated. I am convinced that the number of cases diagnosed as malignancy might be materially reduced under proper dietetic regime.

There is no age limit for the rest cure. In fact, I believe that it could be given to splendid advantage in senile malnutrition. At this age we are inclined to think that the days of usefulness of the patient are almost ended, and probably we put forth less effort to add a few years than we do in case of younger people. About two years ago I was called to see a lady eighty years old. She asked me to see what I could do about building her up. She had lost in weight from 135 pounds to 83 pounds, in the past two or three years. As her weight diminished she had naturally lost in vitality, and had become a care to her family. She had suffered occasionally with gallstone pains of various grades of severity, but her physician advised against removal of the gallstones on account of her age. She had lost her desire for food and when she did take food it usually gave her more or less distress, so there was little foundation for hope of much improvement. After starting her with a very small amount of food, given frequently, we were soon able to increase the amount until she was taking enough to cause her to gain slowly. At the end of several weeks she had gained 40 pounds, and had resumed many of her former activities, such as auto riding, calling on her friends, and going to an occasional party. Recently she has had more of her gallstone attacks and has lost several pounds, but since resuming her diet she has gained all of her lost weight and several pounds in addition.

Three years ago I built up a man who was 65 years of age. It had been necessary for him to stop work on account of fatigue and loss of weight. One physician diagnosed his case as malignant prostate, and urged an operation. Two other physicians doubted this diagnosis and sent him to me to be built up. In about seven weeks he gained 25 pounds, and he has enjoyed splendid health ever since. Many elderly people respond to the treatment better than younger people. This may be due to the fact that they follow instructions better and work harder to get well. I could give several interesting reports of patients above 60, but do not wish to extend the discussion.

Nearly all cases of ulcer of the stomach and duodenum are in people below par, or those suffering from malnutrition. I believe that not enough importance has been attached to this factor in the etiology of ulcer. It stands to reason that the tissues of a body under par are less resistant than they are in a normal person, and that a broken tissue in the stomach or duodenum would become ulcerated more easily in the individual with less resistance. This is one of the reasons for wanting the patient in an ulcer case to be built up during the period of rest and diet. Of course, in such cases more alkalies are used, in conjunction with such diet as is indicated.

In intestinal cases I have often found the rest cure quite beneficial, in both diarrhea and constipation. In the diarrheal cases, in which we are unable to find any definite infection or cause, we usually have a thin and rundown condition, and often nervous symptoms, which help to aggravate the case. Several of these cases have cleared up and others are very much improved, under the building-up process of rest and diet.

I have had several cases of severe constipation of long standing that were corrected during the rest cure. I attribute this result to the establishment of a more systematic regime, and to the fact that the tonicity of the intestinal wall improves as the entire body builds up.

Young ladies who live a very strenuous life socially, often are unable to withstand the strain. They are usually thin, anemic, tired and worn out. Each has her own peculiar sign of fatigue or nervous symptoms. These patients usually respond nicely when they consent fully to complete rest and the building-up diet.

One of the hardest patients to induce to submit fully to treatment is the worn-out business man, who feels that his business will not run without him. They are usually able to resume their work, providing they submit to treatment early enough.

In the past four or five years I have taken up a modified form of rest cure to suit some patients who are so situated that they cannot give up their work or various activities. I have termed this an ambulatory rest cure or building up, while some have called it a "walking rest cure." In these cases I have directed the diet and insisted upon as much rest as possible. I have had over one hundred of these cases. Most of them have done better than I had hoped for. Several gained from twenty to twenty-five pounds. Some of them were on the point of having to give up their work but were not financially able to do so if it could be avoided. I do not advocate this form of treatment, except in rare cases, or in emergency cases, so to speak, as I believe the absolute rest is much better.

I do not want to give the impression that all cases of attempted rest cure are successful, although most of them can be made so. Some are failures for the lack of co-operation on the part of the patient; some on account of environment, and more especially when given at homes; some because they are financially unable to have proper attention, and some because they have refused the treatment of, or the removal of a diseased organ before commencing the rest cure. Few of these will do well without a close and systematic supervision of everything that is to be done from the feeding to the bathing and massage. Beginning with a too heavy feeding has often made the stomach rebel, and when this happens it is difficult to persuade the patient to continue. To keep in close contact with the patient is one of the essentials of a successful rest cure. A rundown patient needs encouragement and confidence, and it is the duty of the attending physician to give it.

I do not care to be placed in the position of advocating the rest cure for each and every ache and pain, nor as as substitute for surgery. I do, however, strongly urge its importance in many chronic cases. I believe in many cases it should be used in connection with surgery. I believe, too, that the treatment is in its infancy, and that when its principles are more closely and strenuously carried out, in some cases it will save exploratory operation, and give life and vigor and usefulness to many a chronic invalid, and new life to that numberless group, the semi-invalids.

NASAL OR SPHENO-PALATINE NEUROSIS.*

BY

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The object of this paper is to stimulate and add interest to a neglected subject. I am very much surprised to learn that the average rhinologist does not interest himself in this particular phase of our specialty. In the past few years, however, considerable interest has been taken in the subject, although there is not, even now, attributed to it the importance which I consider it deserves.

To understand the etiology of these neuroses, a fairly clear conception is necessary of the anatomic relationship of the ganglion to the various accessory sinuses of the nose. Therefore, a review of the anatomy of this region is necessary. The spheno-palatine, Meckel's or nasal ganglion, is deeply placed in the spheno-palatine foramen. It is triangular in shape, and is situated immediately below the superior maxillary or second division of the fifth nerve. Its sensory root is derived from the superior maxillary nerve, through its two spheno-palatine branches. Its motor root is derived from the facial, through the large superficial petrosal nerve, and the large deep petrosal nerve. These last two join before their entrance in the ganglion to form the vidian nerve, with its sympathetic root from the carotoid plexus.

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The branches of distribution are in four groups: (1) Ascending, which passes to the orbit; (2) descending, to the palate; (3) internal, to the nose, and (4) posterior, to the nasopharynx. (Gray).

The ascending branches supply the mucous membrane of the postethmoidel and sphenoidal sinuses. The descending branches are distributed to the roof of the mouth, soft palate, tonsils and lining membrane of the nose. The internal branch is distributed to the septum and outer wall of the nasal fossa, and to the mucous membrane behind the Eustachian tube. As can readily be seen from the wide distribution, there are numerous points which may be irritated and cause symptoms, either locally or reflexly, at some distant point. Therefore, owing to the great area of the nasal mucosa, including the lining of the nasal accessory sinuses, and because of the fact that the mucous membrane is brought into contact with various irritating substances by breathing, and to the further fact that the sinuses are often the seat of suppurative processes, we must look here for most of the causes of spheno-palatine neurosis.

On account of this close relationship of the ganglion to the sinuses, one cannot but believe that an inflammation or suppuration in these sinuses must at times involve the ganglion itself. The ganglion does not always bear the same relation to the foramen. My observations in dead-house work is that it is as close as 1 m.m. or as far as 6-9 m.m. The ganglion is located from 5-7 m.m. beneath the second division of the fifth nerve, midway between the posterior part of the tuberosity of the superior maxilliary bone and the anterior surface of the greater wing of the sphenoid bone.

CLINICAL DIVISION.

We divide this neurosis into two classes, the Neuralgic and the Sympathetic.

The Neuralgic type consists of pain, intense and excruciating in character (in some cases, of milder variety), radiating to any and all points supplied by the branches of the ganglion. The typical location of the pain is over the root of the nose, in and about the eyes, over the frontal region, into the pharnyx and tonsil region, in and around the ear, posterior to the mastoid, about 5 c.m. behind and into the occiput, to the side of the neck and shoulder, arm and, at times, even to the tips of the fingers.

Not all patients present this typical picture. Usually, only a part of them are involved, although I have seen many cases in which all of them were affected. All local points of irritation or inflammation must be searched for and corrected before an attempt is made to attack the ganglion itself. I refer to the teeth, gums, tonsils, septum and sinuses.

The sympathetic syndrome comes on at any time of the year, is irregular in its time of appearance, duration and severity, and is in no way associated with the ripening of the various pollens, to the inhalation of which hay fever has been ascribed. The attacks scarcely ever occur during August or September, and if they do, the severity of the attack is lessened.

The paroxysms are often brought about by contact with or inhalation of a specific kind of perfume, a particular flower, the odor of various animals, a slight draft of air, or the inhalation of ordinary dust, or they may come on apparently spontaneously. These paroxysms usually begin just on arising, with attacks of sneezing. The patient sneezes as many as one hundred times, and the attack is followed immediately by a profuse watery discharge from the nose. There is a reddening of the mucous membrane of the eye, accompanied by profuse lacrimation. The nose becomes blocked and the breathing is difficult. The symptoms may be of short duration, or may last several hours and then suddenly abate, only to reappear on succeeding days, or when the patient is brought again into contact with the specific irritant.

Some of these acute attacks may continue for a week or ten days, and some only a day. The appearance of the nasal mucosa between the attacks is usually normal except, possibly, for a slight paleness. During the attacks, however, the turbinates are swollen, soft, pale and edematous, and have a boggy appearance. This is especially true of the inferior and, to a lesser degree, of the middle turbinate. The conjunctiva is injected, and at times itches. Just why some of these cases present symptoms of the neuralgic, and some of the sympathetic type, is difficult to explain. We do know, however, that other ganglia present the same phenomena; for instance, the lenticular ganglion.

DIFFERENTIAL DIAGNOSIS.

1. Cocainization of the spheno-palatine ganglion stops the pain of a lesion in the ganglion.

2. Cocainization of the spheno-palatine ganglion does not in any degree stop the pain created by the more central lesion of the nerve-trunks, maxillary and vidian, secondary to spheno-ethmoidal inflammation.

3. On the other hand, intrasphenoidal application of pain-reducing remedies, such as cocaine, will, under these conditions, stop the pain; that is, a local anesthetic applied centrally to the ganglion is effective.

In addition to these points of difference, there is often a congestion and thickening

(hyperplastic post-ethmoiditis) at the site of the spheno-palatine foramen, when the nasal ganglion is the starting point for the neuralgia.

The above-mentioned syndrome may be produced by lesions of the nerve-trunks which supply the ganglion, namely, the maxillary and the vidian nerves. Both the maxillary and the vidian trunks frequently lie in very close association with the sphenoid sinus. Therefore, when inflammation exists in the cavity which occupies the body of the sphenoid (the sphenoidal sinus or a posterior-ethmoidal cell), it may readily involve the associated nerve-trunks, either by its extension or by its toxin passing through the thin separating bony wall.

All pathologic conditions of the upper respiratory tract must be corrected. One of the most valuable prognostic points is the application of from 10 per cent to a saturated watery cocaine solution, painted over the region of the spheno-palatine foramen. If this stops or lessens the pain, we can be reasonably positive that the injection of the ganglion will give good results.

The relation of the spheno-palatine foramen to the posterior tip of the middle turbinate, is one of the most constant in the nose. The posterior tip of the middle turbinate always marks the anterior limit of the spheno-palatine foramen. These relations kept in mind. A straight needle passing under the posterior tip of the middle turbinate at its origin from the lateral wall in a direction backward, upward and outward, should enter the spheno-maxillary fossa, and enter the ganglion or in its immediate vicinity. The distance from the point of entrance to the ganglion tissue, is almost invariably 0.66 cm. The lateral wall of the nose plays an important part in this technique, and its variations should be borne in mind.

If the wall interferes with the use of the straight needle, the use of the curved needle may be better in these cases. Never attempt too much surgery on the lateral wall of the nose, as considerable hemorrhage may result, or injury to the spheno-palatine or descending palatine, or internal maxillary artery.

TREATMENT.

The area of the ganglion and the spheno-palatine foramen, is cocainized with a watery solution of cocaine hydrochlorate, 20-90 per cent. (There is no need of attempting to cocainize under the tip of the middle turbinate, as the mucous membrane absorbs cocaine as readily as a blotter does ink). One should cocainize thoroughly and repeatedly, as injecting or painting the parts with strong silver nitrate under insufficient anesthesia, is very painful.

Some textbooks and authors suggest and recommend the use of alcoholic injections. Alcoholic injections do not destroy completely the nerve fibers and nerve cells; they recover their function in a few months and, as a consequence, we obtain during this period a cessation of the symptoms produced by an inflamed nerve or ganglion. We do not often penetrate the ganglion itself, but only bathe the surface with the alcohol, which we inject into the spheno-maxillary fossa.

Solution and Amount Used for Injection and Swabbing.—From 5 to 15 minims of 5 per cent phenol in 95 per cent alcohol, and an aqueous solution of 10-12-25-50-75 per cent of silver nitrate, freshly prepared, have been used by me very successfully, in both types.

Instrumentation.—A 5 c.c. Luer syringe, with a 1-m.m., 5¼-inch needle with a cross bar is used, and from 5 to 15 minims are injected. If the needle succeeds in penetrating the ganglion, the patient complains of excruciating pain in the eye, ear, and top and back of the head and shoulder. Should the solution surround the ganglion, the pain is less. The pain lasts from a few minutes to from 24 to 48 hours.

The injection in old and severe cases must be repeated. Difficulty in obtaining relief is explained by the fact that the ganglion position must necessarily be influenced by the changes of a hyperplastic post-ethmoidal sphenoiditis. The ganglion imbedded in a tissue of a low grade chronic inflammation, must be irritated by it, and unless patience is exercised by the rhinologist he must expect failures.

The use of the suction apparatus has given me most excellent results. I have used the Sorensen and the "Frank's Machine," in over six hundred cases of sinus disease. From a diagnostic point of view, it is the most reliable method, next to puncture and irrigation; and in spheno-palatine neuroses, the use of the suction apparatus is my best friend when the cause can be ascribed to sinus disease. I recommend the Smith technique for injecting the spheno-palatine ganglion, instead of the nasal route.

PROGNOSIS.

The prognosis is bad, if the case is left alone. When proper treatment has been resorted to, the prognosis is naturally improved; but at this point I desire to state that the brilliant results which we desire, or expect, in the neuralgic type are not often achieved. When, perchance, we do succeed in controlling these severe pains, if only in a small percentage of cases, the results certainly justify the efforts.

We obtain a larger proportion of improvement in the sympathetic than in the neuralgic

type. In a large percentage of these sympathetic affections we obtain complete cure, and in practically every case an improvement in the symptoms.

Complications may be tabulated as follows:

1. A paresis of the abducens, occurring after injection.
2. Swelling and ecchymosis appearing in the cellular tissue beneath the lower lid, closing the eye after injection.
3. Secondary hemorrhage from the nose, often making it necessary to pack. I believe this to be due to an erosion of the spheno-palatine artery.
4. The alcohol-phenol solution running down the pharnyx, or even the larynx.

SUMMARY.

1. The injection of the spheno-palatine ganglion is usually carried out without any difficulties. Complications are not numerous or severe, but they do occur.
3. The safest and easiest method is Allen's.
4. Smith's technique for injecting the spheno-palatine ganglion is exceedingly simple and safe.
5. In all of my cases, the spheno-palatine neurosis was due to sinusitis, as proven by the use of the suction apparatus and irrigation, even though the skiagraph was negative in many cases.
6. I recommend the use of the suction apparatus for at least thirty minutes every day, until sufficient improvement justifies lengthening the intervals of treatment.
7. The use of silver nitrate, 4-8-12-25-50-75 per cent, applied after use of cocaine and adrenalin, is recommended.

REPORT OF CASES.

Case No. 1.—Dr. C., complained for eight years. Skiagraph was negative. There was tinnitus in the left ear, pains in back of eyes, root of the nose, left temporal region, back of the left ear, over the mastoid region and the neck. He could not sleep after 4 o'clock a. m. Aspirin gave relief for only a short while. The suction apparatus has relieved this patient of all pain, and all symptoms except the ear noises, which have nearly disappeared. (No pus was seen on examination).

Case No 2.—Mrs. F., complained of cold in the head, torticollis, sneezing, pus, pains behind the right ear and mastoid region, and bronchitis. Applied suction apparatus daily for six visits. All pain disappeared after three treatments. Bronchitis disturbed the patient's sleep. Applied solution of silver nitrate, 8 per cent, once, which immediately caused disappearance of the cough.

Case No. 3.—Mrs. S., complained of pain over the right parietal bone. There was no history of influenza or coryza, and no pus. A solution of silver nitrate, 12 per cent, applied over the region of the spheno-palatine ganglion, stopped the pain, and there has been no recurrence.

Case No. 4.—Mr. G., gave a history of sneezing about 50 to 75 times daily. There was no pain, and no pus on nasal examination. One application of a solution of silver nitrate, 75 per cent, was sufficient for a cure.

Case No. 5.—Mrs. C. had complained of asthma for eight years. Nasal examination revealed boggy middle turbinates, paleness of nasal mucosa, and probably spheno-ethmoiditis. Removal of the turbinates and ethmoids, and applications of 8 per cent solution of silver nitrate, has resulted in a cure.

BRONCHOSCOPIC REMOVAL OF FOREIGN BODIES FROM THE AIR PASSAGES.*

BY

HORACE T. AYNESWORTH, M. D., F. A. C. S.

WACO, TEXAS.

Within recent years the removal of foreign bodies from some portion of the respiratory tract has become a fairly frequent occurrence. If no attempt is made to remove them, a small per cent, about 2, according to Jackson, will be spontaneously coughed up and the symptoms relieved. But in a very large majority of cases the foreign body is retained in the lungs and by its presence sets up a train of symptoms that sooner or later makes a chronic invalid out of the individual. Most such cases are in children, as they are in the habit of putting all kinds of things into their mouths, such as berries, small stones, popcorn, watermelon seed, buttons, peanuts, etc., and in some excitement or crying spell the object is drawn into the larynx, trachea or down into the bronchi.

In grownups it is a custom among many to put such objects as pins and needles into their mouths, and in acts of coughing or other spasmodic conditions these may be drawn into some part of the respiratory tract. Under anesthesia during operations on the nose, mouth, throat or teeth, the same unhappy accident may occur. Under the latter circumstances, the presence of a foreign body in the lungs may not be diagnosed for a long time except by exclusion, careful examination of the lungs, *x*-ray and the general and local symptoms. Under ordinary circumstances, however, when an intruder enters any portion of the respiratory tract, its presence is immediately announced by distressing symptoms. If in the larynx, different degrees of suffocation are produced both by its size, the trauma and the spasm of the vocal cords. There will also be coughing fits, irritation, etc. Usually the first symptoms are violent coughing, with more or less suffocation. This lets up, to be followed by other attacks at intervals. If the foreign body is movable it is likely to be coughed upwards towards the vocal cords, and if it

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comes in contact with them the coughing and suffocation are much more intense. On the other hand, if it becomes fixed in one of the bronchi the coughing may not be suffocative in character at all, and in this case there soon develop signs of local pneumonic process with varying dullness and rales. The *x*-ray will show a corresponding shadow, while the ear will detect signs of obstructed breathing and rales varying in different cases.

The smaller the object the greater the tendency to sink into the finer bronchial ramifications. Pins, needles and tacks have the same tendency. Vegetable substances, such as peas and beans, may very seriously impair respiration by swelling from moisture and blocking the lumen even of the trachea in small subjects. Peanuts, according to Jackson, are particularly irritating to the lungs and soon set up a form of bronchopneumonia. They are difficult to remove on account of their tendency to break up into several pieces and scatter, or be so broken in chewing. At times a foreign body may not produce such serious symptoms at the time and be soon forgotten. At other times it produces violent symptoms, such as bronchopneumonia, pulmonary abscess, etc. In many chronic cases we have the usual signs and symptons of tuberculosis minus the bacilli in the sputum.

In every case of foreign body in the lungs it is imperative to make such efforts at removal as are in our power. Such cases should generally be considered emergency cases, and no more time be lost before attempting their removal than is necessary to establish their presence, location, nature and the determination of the procedure most likely to be successful in efforts at removal. A complete history of the accident is important, together with knowledge of the probable nature of the foreign body, clinical history since the time of accident, present condition of patient, etc. *X*-ray alone or in conjunction with fluoroscopy should be used in every case, one might say, almost irrespective of whether the foreign body can be rayed or not, as by it the condition of the lungs, any localized cloudiness, etc., will be shown and the location of the foreign body shown in all favorable cases. Where the *x*-ray does not locate the intruder the physical signs are often of the greatest aid, such as impaired breathing on one side, localized rales and bronchitis. Where there is a reasonable chance of successful removal one should not be deterred from the attempt even in the presence of considerable pneumonia. So long as the cause of the trouble remains, so long will the patient's life be menaced, hence our efforts must be directed to the removal of the foreign body, after which any secondary condition usually quickly resolves.

Before the era of bronchoscopy, if the patient did not cough the foreign body out a tracheotomy was done and search made with various types of forceps and other instruments. Often this was quite successful, especially for loose objects in the trachea or a main bronchus. Under local anesthesia, or not too deep general anesthesia, in such cases a little irritation of the tracheal mucous membrane often sufficed to produce sufficient coughing to cause the expulsion of the intruder if the lips of the wound were held widely open. The wound could be closed at once, as a rule, and recovery was usually prompt and satisfactory. But only a small percentage of the total number of foreign bodies could thus be removed, so that the advent of bronchoscopy marked one of the really great events in the history of medicine.

Bronchoscopy may be through the mouth or through a tracheotomy wound. The latter method is naturally the easier and is often selected by those who find the oral method too difficult, especially in children and infants. In my earlier cases I used this method exclusively, but the more recent cases have all been by upper, or oral, bronchoscopy. This avoids a tracheotomy and any possible complications that may result from it, but on the other hand requires a much greater degree of skill, and has as one of the occasional complications a greater or less degree of subglottic edema. In young children, this may appear somewhat serious from about the second to the fourth day following removal. Jackson advises that general anesthesia be rarely, if ever, used, and that in those under about 7 years no anesthesia, local or general. Others less skillful use anesthesia more freely, especially general anesthesia. I confess a timidity, and usually have my patients put to sleep, using a motor-driven ether suction apparatus to keep them etherized during the operation.

There are two general types of bronchoscopes, of which Jackson's and Bruenings' are most representative. Jackson's is distally lighted, while Bruenings' projects the light from a mirror in the handle down the tube. I use the latter instruments. Before beginning anesthesia, morphine and atropin in older patients and atropin alone in younger patients, is given to control secretions and quiet too great irritability of the respiratory mucous membrane.

Following removal of a foreign body from the lungs the patient should not be allowed to leave the hospital at once, on account of a possible post-operative subglottic oedema, as

well as pneumonia or other complication. These patients should have such general care as may be called for, and in addition should be given appropriate doses of atropin. In case subglottic oedema develops they should be put into a croup tent. In extreme cases one may even have to consider tracheotomy, though this will be rarely called for. The technique of bronchoscopy will not be referred to except to say that the tube can be introduced either with or without the aid of suspension, but the following cases will be reported as illustrative:

Case No. 1.—S. N., female, age 3½ yrs.; Dec. 3, 1920, while eating popcorn got choked, became blue in the face, with a suffocative cough lasting for a considerable time. The attack was renewed at frequent intervals, but the worst was over in about two and one-half hours. When I saw the patient several hours later, she still had some cough and dyspnoea.

Examination revealed very little air entering and leaving the left lung. She was given atropin, gr. 1/300, and put to sleep with chloroform. Upper bronchoscopy was resorted to. The first attempt, of several minutes duration, failed to locate the foreign body, but after the second introduction it was located in the left main bronchus, from which it was promptly removed. It proved to be a partially popped grain of popcorn. Examination of the lungs now showed air freely entering and leaving the left lung. The patient was put into a croup tent and given atropin, gr. 1/400, every 4 hours. Recovery was perfect.

Case No. 2.—M. G., female, age 2 years, was seen June 24, 1921. Three days before something had lodged in the windpipe, followed by typical symptoms of coughing, etc. *X*-ray and the fluoroscope showed a small, round object in the trachea. Upper bronchoscopy under ether was done. The instrument was difficult to introduce, but the object was quickly and easily seen. It was moving up and down, and this, together with the reflex from the barrel of the grasping forceps, made it very hard to grasp. Following the second withdrawal the foreign body was seen by the fluoroscope to be in the stomach, then a few minutes later in the upper oesophagus. It was realized that further attempts at removal were now not necessary, but merely to recover it and make the operation complete, it was removed in a very ingenuous manner by Dr. C. E. Collins, using a long small flexible forceps working through a rubber catherer under the fluoroscope. It could easily have been removed through the esophagoscope in the usual way, but the ease and rapidity with which Dr. Colline removed it was a pleasure to behold. The usual after treatment was given. In about 18 hours severe subglottic oedema developed, which lasted for about two days. Recovery was complete. The foreign body proved to be a small black fastener, such as is used on dresses.

Case No. 3.—D. F., female, 4 years old, on July 16, 1921, while eating watermelon got choked and inspired a watermelon seed. She was brought to me three days later, with wheezy breathing and coughing spells. The lower right lung showed impaired breathing. Upper bronchoscopy was done under ether. The seed was seen in the right lower bronchus. It was grasped firmly by forceps, and being too large to be drawn through the small tube used, the tube and the seed, in the grasp of the forceps, were withdrawn together. The usual after treatment was employed. Some subglottic oedema occurred, but recovery was perfect.

Case No. 4.—E. M., female, age about 20, on Dec. 2, 1921, while holding in her mouth a small white headed, slightly bent and rusty pin 1⅗ inches long, suddenly drew it into the windpipe. This patient had been seen by two other physicians before coming to me, and she had been advised to go to a distant city to have the pin removed. The *x*-ray had at first located it in the right bronchus opposite the upper part of the pericardium, where it was seen, head down and point up. A localized bronchopneumonia was already developing. By the time the patient reached me two days later, the pin had shifted its position, and was now lying in the cervical trachea. She was given a hypodermic of morphine, gr. 1/6, and atropin, gr. 1/100, and was anesthetized with ether. The bronchoscope fairly fell into the trachea, so easily was it introduced in comparison with the difficulty experienced in my former operations on small children. The pin was immediately and easily seen, but was found to be difficult to grasp in such way as to be withdrawn without the point catching in the mucous membrane. After trying forceps extraction a few minutes without success, the pin was gently pushed downward until it was felt that the point was free, when a cotton wound tracheal applicator was introduced. The pin was entangled in its meshes on the first effort, and was promptly and safely withdrawn. Atropin was ordered. Not an unpleasant symptom manifested itself, and the patient went home on the third day in good condition.

According to Jackson, peanuts, especially in children under 2 years old, cause marked local reaction and general toxemia. Within 24 hours the patient may be gravely ill and may even die. Children over 2 years of age show less local and general symptoms, but in them the condition is always more serious than is the case with the more dense foreign bodies. Jackson has applied the name "Arachidic Bronchitis" to this disease. He also says that at the bronchoscopic clinic monolateral emphysema of the obstructed side is seen in peanut cases so often that it is considered diagnostic of this condition, although it is also seen in similar foreign bodies. The *x*-ray has been thought by most workers in this field not to be of special service, since the peanut is generally not radiopaque. However, in a recent case, Dr. I. W. Jenkins clearly demonstrated with a well defined shadow, the presence of a peanut in the right bronchus. Willis F. Manges and Wm. H. Spencer, working in Jackson's clinic, have been able to demonstrate the presence of radioparent bodies in one lung in many cases by the following findings: (1) Increased transparency on the obstructed side; (2) displacement of the heart toward the uninvaded side, and (3) downward displacement of the diaphragm and a marked limitation of its motion on the obstructed side. In short, an acute, monolateral obstructive emphysema.

The peanut acts as a ball-valve, and during inspiration, while the lumen of the bronchus is temporarily increased in size, air is allowed

to enter the lung by the side of the intruder, but is prevented from leaving the lung by the diminution in caliber of the bronchus during expiration. Hence, acute emphysema results.

Case No. 5.—D. K. G., age 2 yrs., 5 months., on March 8, 1922, while eating peanuts strangled and became cyanotic. This passed off and the parents were lulled into a false sense of safety, until four days later. While eating an apple the child suffered a similar attack, after which the symptoms of wheezing, dyspnoea, cough and fever, continued. The child was brought to Dr. W. L. Crosthwait, who correctly suspected a foreign body in the lung and thought the right lung emphysematous. He referred the patient to me for treatment. The child was well nourished, but looked sick, was wheezing and dyspnoeic and had a little fever. Dr. I. W. Jenkins succeeded, after the child had gone to sleep, in showing with the *x*-ray a definite shadow in the line of the right bronchus at the level of lower border of second rib anteriorly. Dr. W. C. Bidelspach definitely located rales in the same locality, and their absence in the remainder of the lungs. Under ether upper bronchoscopy was done, using Bruenings' smallest tube. The foreign body was located in the right bronchus. After a few minutes it was successfully removed, but only by withdrawing the tube, forceps and intruder all together, as the object was too large to come through the tube. It proved to be half of a peanut. The child was put into a croup tent, given atropin, gr. 1/600, every 4 hrs., and after some little subglottic oedema on the second and third days, without fever, made a most satisfactory recovery.

EXTRA-LARYNGEAL BLOOD-CYST IN SEVEN-WEEKS BABY.*

BY

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DALLAS, TEXAS.

August 23, 1920, I was called by Dr. J. F. Perkins to see a baby, Jack P., male, white, aged seven weeks, and weighing nine pounds. The patient was practically in extremis from dyspnoea, which had begun about two weeks before, gradually increasing until death seemed imminent. The mother stated that no dyspnoea had been noticed before that time, but that there had been a slight "crowing sound" on nursing since the child was two weeks old. Dr. C. R. Hannah, the obstetrician in the case, stated that there was no difficulty in breathing at birth, the child seeming normal in every respect. No attempt was made to clear out the larnyx; hence, there was no chance for trauma. He states that there was no "crowing sound" during the two weeks he attended the mother.

The "crowing sound" on nursing became louder, and the baby seemed to have more and more difficulty in breathing. A "practical nurse" said that all babies did that. A pediatrist was consulted, and he diagnosed enlarged thymus and gave a bad prognosis. By this time, the parents were naturally much worried and consulted another pediatrist, who eliminated the enlarged thymus by two or three *x*-ray treatments. An internist was next consulted, a diagnosis of atelectasis being made, especially on account of the marked retraction of the left chest wall on inspiration. (The obstetrician had positively eliminated atelectasis during his two weeks attendance). Being still anxious and dissatisfied, the parents took the child to a laryngologist, who told them that it had a tumor of the throat, but was "too sick to be operated." Another laryngologist gave the opinion that the child had only a bad cold, and was clogged up with mucus. Two or three general practitioners next saw the patient. They were all doubtful as to diagnosis, inclining to either enlarged thymus or atelectasis. The last physician to see the patient before it was brought to me, was another laryngologist, who advised an immediate journey to a distant city, as "no one in Dallas was prepared to do the work the baby needed." (He seemed to think there was a tumor obstructing breathing). My opinion is that the child would not have lived through the journey.

I felt that something should be done immediately, but did not attempt to gain any information by inspection. Marked emaciation was present. The infant had not been able to nurse satisfactorily. I inserted my index finger down to the larynx, and had no difficulty in outlining a smooth, round tumor, about the size of an English walnut. There was no flectuation, but I felt sure that I was dealing with a sack filled with fluid, probably under such pressure that flectuation was difficult to obtain, especially since the mass was not fixed. The pediatrician in charge of the case, who was present, likewise palpated the tumor and stated that, in his opinion, it was as large as a guinea egg. To be conservative, I said that it was as large as a pigeon egg.

The parents would not permit any operation at this time but consented to bring the child to the sanitarium early the next morning. This they did, and on the advice of the consulting pediatrician, the child was suspended over his shoulder, with the head down, the left index finger was introduced and an attempt made to penetrate the wall of the cyst. This was extremely difficult on account of the mobility of the tumor. The tumor was then steadied from the outside, after which an attempt was made to destroy it as completely as possible, by means of a pair of sharp, curved scissors. I succeeded in doing this, and immediately two drams of dark clotted blood were evacuated. At once the child began to breathe better, and when put to the breast nursed normally for the first time in several weeks.

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The wall of the tumor was so fibrous and so hard to penetrate, that in my opinion a diagnosis of hematoma would have been incorrect. Hence, I speak of the tumor as an extra-laryngeal blood-cyst. Its exact location was slightly lower than the epiglottis, and between the larynx internally and the outer wall of the deep ora-pharnyx externally. Before the operation, there was some doubt as to the exact diagnosis, as cyst, tumor and abscess, had to be taken into consideration. Owing to the uncertainty, all that I could definitely state was that, in my opinion, we were dealing with a sack filled with fluid. There being no temperature, and no marked signs of inflammation, I leaned to the diagnosis of extra-laryngeal cyst. The pediatrician spoke of its contents as "dead-blood."

The day following the operation, I made an inspection with a small laryngoscope, and with no difficulty whatsoever saw the gray, shining wall of the collapsed cyst. I felt sure that the cyst would refill and would evidently have to be dissected out. Indeed, I palpated the deep ora-pharynx several times within the next few weeks, but the cyst never refilled and the child gained in weight as any normal child should. It has now been more than twenty months since the operation and the condition of the deep ora-pharnyx is normal. The child seems normal in every way and weighs twenty-six pounds.[1]

TYPHUS FEVER.*

BY

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County Health Officer,
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Typhus is a disease of which the average American physician knows very little; many of them have never seen a case. This disease usually follows in the wake of war, famine and pestilence, where people are crowded together in an unsanitary manner. Early in the sixteenth century the first accurate descriptions of typhus fever appeared, the disease being prevalent at that time in Italy and Spain. The disease in all probability first occurred on the North American continent in Mexico, in the latter part of the sixteenth century, probably having been brought over from Spain. It has been endemic in that country since that time. We have had typhus fever in El Paso from the earliest history of the city. We will probably continue to have it at times, on account of our proximity to Mexico. I shall never forget my first experience with typhus fever. It was at the time Madero captured Juarez, in 1911. Drs. F. P. Miller, W. R. Smith, J. W. Tappan and I were doing relief work in that city immediately after the battle. I found a temporary hospital near the center of the city and was going through looking for persons needing medical aid. I was attracted to the rear of the building by a series of moans and groans, and in the back patio were nineteen typhus victims—naked, delirious, tongues swollen and protruding and with rashes in all stages. They had been without nourishment and without water for about 36 hours. Those in charge had fled before the city had surrendered. Many were unable to speak, and none able to stand. Some were crawling on all fours, others merely rolling in the dirt, moaning and groaning. I did not delay to make a diagnosis, but sent an orderly for water. I found but few who could swallow. I immediately called Dr. Miller and we decided that it was either typhus or Rocky Mountain spotted fever, and as Dr. Tappan had had experience with typhus fever in the Immigration Service at Ellis Island, we decided to have him see the cases. Dr. Tappan said it was undoubtedly typhus fever. Of these nineteen cases, nineteen died; and what prevented a serious epidemic in El Paso at that time I do not know, as souvenir hunters and curiosity seekers visited Juarez in droves, bringing back Mexican uniforms, blankets and other souvenirs, and every place we visited in Juarez at that time was louse infested. We did have several cases in El Paso, but nothing like as many as one would expect. I am convinced that many cases of typhus fever were erroneously diagnosed something else.

Nicolle, in 1909, fully demonstrated that typhus fever is conveyed by the bite of the *body louse only.* This fact has been amply confirmed by Anderson and Goldberger, Ricketts and Wilder, and others.

The disease is characterized by an abrupt onset, macular eruption extending over the body and limbs, high temperature with delirium and coma, accompanied with a bronchitis of more or less severity and terminating by lysis on the 12th to 15th day. Typhus fever is also known as jail fever, ship fever, spotted fever and, in Mexico, "tifo".

ETIOLOGY.

Typhus fever has for many years resisted the attempts of medical men to demonstrate its causative agent. Many different microorganisms have been cultivated from patients having the disease, and one physician after another has claimed to have isolated the specific agent. Ricketts, in 1909-10, and Prowozek, in 1912-13, found in typhus bearing

1. Author's Note:—March 23, 1923—Two years, seven months since this operation, the patient is in fine health; weighs 33 pounds, and there are no laryngeal symptoms.

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lice certain bodies which have since been called "Rickettsia-Prowozeki B". In 1919-20, Drs. Wolbach and Todd visited both Mexico and Poland in order to study typhus fever in these countries. They found similar organisms to the "Rickettsia-Prowozeki" in the vascular lesions of Mexican typhus, and from studies in Poland they found: (1) that body lice free from Rickettsia when fed on typhus patients in a large percentage of cases acquired the Rickettsia, and that Rickettsia B will develop in a louse fed on the blood of a typhus patient in from 6 to 10 days; (2) Rickettsia were found in the vascular lesions of the skin of typhus patients, both at autopsies and from excised specimens during life, and (3) that the presence of Rickettsia in lice was necessary for the transmission of typhus by the bite of the louse.

All attempts at cultivation of the Rickettsia have proved negative. Wolbach, Todd and others are of the opinion that "Rickettsia-Prowozeki" and the "Dermacentroxenus Rickettsia" of Rocky Mountain spotted fever belong to a hitherto unknown group of micro-organisms.

PATHOLOGY.

Autopsies made in uncomplicated cases of typhus, reveal no constant gross lesions other than the rash, which persists even after death. Microscopically, a very distinctive pathology exists in the lesions of the blood vessels—more especially of the skin and central nervous system. This was first discovered by Frankel in 1914. These lesions start with a proliferation of the endothelium, which is followed by degeneration and necrosis. This accounts for the petechial or hemorrhagic eruption, and also for the nervous phenomena. In fatal cases bronchitis or bronchial pneumonia is invariably present. In cases followed by post-mortem examination at the County Hospital, El Paso, the trachea and bronchi were all injected and thickened.

SYMPTOMS.

Typhus fever is one of the few diseases with an abrupt, sudden, serious onset. The patient is desperately ill and shows it from the very beginning. It is usually ushered in with a chill or series of chills, accompanied with a very severe headache. The pain spreads from the head to the body and limbs, but is more marked in the head. Vomiting is not infrequent. The face is flushed and the conjunctivae congested. The patient may have a slight cough. Between the third and seventh day, usually on the fifth, the diagnosis is cleared by a distinctive eruption, first appearing on the chest, abdomen, back and shoulders. This is at first a pink macule, irregular in shape, and in size from 1/12 to ½ inch in diameter. It is non-palpable and at first disappears under pressure. A point of diagnostic value is the failure of the eruption to appear on the face and palmer surfaces of the hands and feet. The more virulent the case the more general the eruption. The rash changes in color from pink to red and from red to purple as the disease progresses. The purple rash is an indication of the serious condition of the patient. Sometimes in severe cases some of the eruptions become hemorrhagic. The rash remains in some of its various stages until the crisis. With the beginning of the rash the headache subsides and the bronchial and nervous complications usually show a marked increase. At this stage the patient becomes very restless and exhausted, and is disturbed by a severe cough, making sleep impossible.

The first danger signal is a dry, parched tongue. Patients will frequently complain of sore throat, an examination probably revealing a redness of the fauces. Another constant symptom is the dusky hue of the skin —resembling a general cyanosis. There is usually a leukocytosis. The higher the count the more unfavorable the prognosis, yet many patients with a high white cell count will recover. Some cases at the El Paso County Hospital with white cell count above 15,000 recovered. In cases with delirium, incontinence of urine and feces is common. There may be retention of urine, which must be guarded against, as the patient will not complain. I have seen enormously distended bladders with no complaint from the patient, and I have seen patients with distended bladders who had been regularly voiding their urine, and this distention was from residual urine. It behooves one in cases of delirium to watch the bladder.

COMPLICATIONS.

A high temperature does not necessarily mean a fatal termination, but patients with high temperatures usually have an abrupt crisis; therefore, one should be prepared to administer temporary stimulants. The two most important complications are encephalitis and broncho-pneumonia. In patients past middle life, with severe nervous symptoms, a coma or stupor usually develops somewhere between the tenth and fourteenth day, and this condition may persist even after the temperature is normal, and not infrequently death will result. Broncho-pneumonia may develop in any case, even mild cases, and increases the gravity of the prognosis. This usually appears with such physical signs as frequent, labored respiration and a weak, thready, rapid pulse. Parotitis, gangrene, erysipelas and diarrhea are complications that we had in cases at the County Hospital.

DIAGNOSIS.

Weil-Felix and Widal agglutination tests, and culture for typhoid, will be valuable in making diagnosis. I have seen cases diagnosed as smallpox, scarlet fever and typhoid fever.

Typhus fever is usually abrupt in onset, and the rise in temperature is always abrupt. Most patients will go to bed at once, although some cases are ambulatory for a day or so. The fever reaches its maximum in about three days and remains fairly constant during the disease, about 103° or 104° F. The pulse increases with the temperature. Chills may occur at first, but the absence of chills is not uncommon.

Pain in the back and limbs is usually complained of, and intense headache is nearly always present and persists. At first the face is flushed; there is some congestion of the conjunctiva, but no coryza. The tongue is coated, and usually becomes indurated, brown and cracked, and when protruded a tremor is noticed.

The typhus rash comes out in from three to seven days after the onset, and is first seen on the chest and abdomen, from whence it spreads to the back, thighs, arms, forearms and legs. It does not occur on the palms or soles, and seldom on the face. Within from 24 to 36 hours after the rash is first seen, it is fully developed and remains so until the temperature is normal or death ensues. It can be seen as a post-mortem lesion.

The rash will disappear on pressure during the early stages, but later on will not disappear, and may become petechial.

The typhus spots vary in size from 1/12 to 1/2 inch in diameter, and have irregular and indistinct outlines. The patient is nearly always constipated, and in nearly every case there is some pulmonary involvement, either a bronchitis, or what might be called a broncho-pneumonia.

The patient, as a rule, is delirious at night, and suffers with considerable deafness. He is usually prostrate, mentally confused and nervous. There are, of course, mild cases, in which many of the symptoms are not marked; in fact, it is reported that the rash sometimes does not occur at all.

The rash, headache, bronchitis, mental confusion, dry coated tongue, nervous tremor, deafness and continuous fever without marked morning remissions, are the most dependable symptoms.

PROGNOSIS.

The mortality varies with different epidemics, from 5 to 50 per cent. Age and physical condition are the most important factors. In persons over 40 years of age the prognosis is grave. In persons under 30 years of age, prognosis is favorable. At the County Hospital we lost about 70 per cent of those over 40 years of age, while in patients under 30 years the death rate was about 8 per cent. Broncho-pneumonia and high white cell count, increases the gravity of the prognosis.

PROPHYLAXIS.

No lice—no typhus (Tappan). The extermination of lice means the extermination of typhus fever. You cannot tell outside of the laboratory which louse is infected, so to be on the safe side, kill all lice. A typhus patient free from lice is no menace to public health. Typhus fever is epidemic in the plateau regions of Mexico, and it behooves the physicians on our Mexican border to exercise vigilance. Physicians and nurses in charge of cases of typhus fever should be exteremely careful. Some reports from Poland state that the death rate among the highly education and cleanly people is greater than among the lower classes, and the mortality rate among the nurses and physicians has been extremely high. Attendants should wear shoes with soles soaked in kerosene, and use rubber gloves. Uniforms should be short. Company should not be permitted, lest lice be brought in and the patient thereby become a menace.

TREATMENT.

Typhus fever is a self-limited disease, for which no specific, immunizing or therapeutic agent has as yet been found. The treatment should be, plenty of rest, proper nourishment, good ventilation and, when necessary, symptomatic treatment. The first thing is to thoroughly delouse the patient. This should be done at the patient's residence. The head, pubes, axilla and all hairy parts of the body, should be saturated with a solution of coal oil and vinegar. This should remain for 30 minutes, when all hairy parts should be clipped and shaved, and the hair the bed clothes and clothing of the patient destroyed by fire, on the spot. The patient should then be wrapped in a sheet saturated with equal parts of coal oil and vinegar and carried in an ambulance to the detention ward. At the detention ward a thorough bath with hot water and green soap should be given. This procedure, in 37 cases at the County Hospital, El Paso, produced no ill effects. If these instructions are followed, the patient will no longer be a menace to the physicians and nurses in charge. The patient should be carefully guarded, especially if he is delirious. A nurse should be constantly in charge, particularly if there are no bars on the doors and windows. We had one patient to escape from the County Hospital, and he has never yet been found. Water should be given

freely, as well as liquid nourishment of high caloric value. The patient should be fed every three or four hours when awake. After the crisis normal diet can be rapidly resumed. All cups and utensils should be sterilized, so as to prevent the spread of secondary infection. Enemas should be used for constipation, ice and cold packs to control temperature, veronal and codein for insomnia, and if there is stupor or coma, the patient should be fed through nasal or oesophageal tube. Some authorities recommend strychnine and digitalis as stimulants, but at the County Hospital, El Paso, we used caffein, strong coffee, camphor in oil, atropin and hot water bottles. The bladder should be watched and the usual typhoid routine in the care of the mouth and teeth should be observed. Otitis media should be looked for. Glycerin is good for the dry tongue and lips.

ABSTRACT OF DISCUSSION.

Dr. J. W. Tappan, El Paso: Dr. McCamant has been quite thorough. There is little more to add. After the Madero revolution, owing to economic conditions in Mexico and the demand for labor in the United States, Mexican laborers flocked into this country for work. We knew at the quarantine station that there was plenty of typhus in Mexico, and we did our best with the limited means at hand. At that time we had no delousing plant and it was difficult to prevent the introduction of typhus. An old delousing plant in Juarez that had not been used for some twenty years, was discovered, and we rented this from the Mexican authorities, using it as a delousing plant on that side, and the laborers were again quite carefully examined on this side of the line.

As we could not detain them for the twelve-day incubation period, it was inevitable that some cases should be admitted into the country. We knew this and warned the various labor organizations and the railroads. These finally established baths and delousing plants and kept up the work of delousing, so that gradually the number of cases diminished.

It can be readily seen that if an immigrant got his infected louse bite in Chihuahua, arrived at this point on the third or fourth day presenting no symptoms, there would be no evidence of typhus, and we would hardly have the right to detain him for the incubation period of twelve days.

The establishment of delousing plants along the railroads did more to help us than anything else. Since the establishment of our own delousing plant on this side of the river, we have very few cases of typhus reported anywhere in this vicinity, or in the communities to which the laborers who enter at this point are shipped.

Schick Test-Lilly.—A diphtheria immunity test (see New and Nonofficial Remedies, 1922, p. 320) marketed in packages containing one vial of diphtheria toxin sufficient for ten tests and a vial of sterile physiological solution of sodium chloride and in packages of ten vials containing toxin sufficient for one hundred tests accompanied by ten vials of sterile physiological solution of sodium chloride. As a control, the Schick test control, representing diphtheria toxin of the same lot treated to destroy the specific exotoxins is supplied. Eli Lilly & Co., Indianapolis. —*Jour. A. M. A.*, Feb. 25, 1922.

A SANITARY WATER SUPPLY.*

BY

V. M. EHLERS, C. E.,
State Sanitary Engineer,
AUSTIN, TEXAS.

A sanitary water supply is essential to every household, and a community's first improvement should be to secure an ample and safe supply for its inhabitants. By safe water is meant water which does not contain an excess of mineral salts, or any disease producing organisms. Mineral salts are derived from the strata of soil with which water has been in contact. Chemical impurities found in water are not generally so detrimental to health as bacteriological pollution. Inorganic matter is of relatively small importance, compared to organic matter, from a public health standpoint. An excess of mineral salts, in general, leads to digestive disturbances, the effect being largely dependent upon the salts present.

Lead is rarely present in natural waters, but is sometimes absorbed from lead pipes. No water should be used for drinking purposes that contains any trace of lead. Lime is the most common of mineral constituents found in Texas waters. In excess, it causes constipation when used for drinking, and is extremely hard for washing purposes. Zinc, copper and arsenic, although rarely occurring in natural waters, may accidentally gain access by means of trade pollution. Iron and manganese affect the taste. Dissolved gas, such as carbon dioxide, imparts a pleasant taste, while hydrogen sulphide has an opposite effect, in addition to its disagreeable odor.

By contamination of a water supply is meant the presence of organisms from the intestinal tract of man or lower animals. For the purpose of determining the presence of pollution, an examination of the source of supply is imperative. Everything possible should be known about the origin of the water and its course to the consumer. A complete investigation of the source will indicate more than a chemical or bacterial examination, for contamination is frequently intermittent.

All Texas streams are more or less polluted, as heretofore rivers have been the outlets for our sewers. The drainage from our dumping grounds usually leads to streams. In the neighborhood of four hundred and eighty-five towns in Texas dump their sewage directly or indirectly into our streams.

Surface drainage, cess-pool drainage, sewage, raw river water and blowing winds, all

*Read before the Section on State Medicine and Public Hygiene, State Medical Association of Texas, El Paso, May 10, 1922.

contribute to the contamination of water supplies. Hence, in order to protect our water supply, we must take steps to prevent contamination, and then seek to diminish the danger from that which has already occurred.

To protect our cistern supply, we must build cisterns of impervious material so as to prevent leakage from the outside. They should be covered and cleaned periodically. The down spout pipes from the roof should have a by-pass line, so that the first water from the roof does not enter the cistern. Our wells should be protected by constructing the curbing to a depth of at least twenty feet, out of either vitrified pipe or concrete or other impervious material. A cement walk should extend around the surface of the well for a distance of ten feet. The top should be protected in the same manner as cisterns. The old chain and bucket should be replaced by a pump, placed on the side, so that waste water will not be permitted to run back into the well.

Examinations of the water should be made at various intervals to determine whether it is potable. Springs should be protected. Reservoirs should be protected by carefully guarding the water-sheds. All feeders leading into a reservoir should also be protected. A number of Texas towns have recently taken steps to protect their reservoirs. A number of cities restrict boating, bathing and fishing on the reservoir, or trespassing on the water shed.

Flowing streams should be protected. Dumping grounds which drain into them must be abandoned and the emptying of raw sewage into them abated. Not only must our sources of supply be protected, but our pumping stations and our carrier systems as well. A number of cases are on record where water became contaminated on its way to the consumer. Standpipes and collector basins have been left uncovered, polluting substances gaining entrance at such places.

Many industrial establishments have two separate systems of water supply; one from an adjacent stream often of questionable quality, the other from the city mains. If these two waters are kept separate there is no objection, but unfortunately they are frequently cross-connected. These cross-connections constitute a health menace if the industrial supply is from a polluted source.

Mains should be cleaned out whenever raw river water or unclean water has been allowed to flow through them.

History records that the Romans, during their years of prosperity, realized the dangers of the contaminated water of the Tigris River. They constructed aqueducts to storage reservoirs, some of them forty miles in length. Los Angeles and New York City have built miles of mains to sources of supply with a minimum of contamination. It has been said that the Japanese and Chinese became tea-drinkers for the reason that so much of their water was polluted.

Our Eastern States took the initiative in preventing stream pollution, but Texas has a law, commonly called the "McNealus Anti-Stream Pollution Act," which in many respects is superior to similar laws in other states. According to the provisions of this act, incorporated cities are required to treat their sewage before discharging it into streams, and garbage and refuse must be disposed of by methods that will not impair the natural quality of the water.

Since the passage of this act an unprecedented number of sewage treatment plants have been constructed. These institutions are not always receiving the maintenance and operating attention necessary to make them function efficiently, but when all the towns have complied with the law, it is hoped that the fish industry will become of importance; that the oyster industry will not again be jeopardized; that truck farming will come into its own; that the stock farmer, the real riparian owner, will be protected; that navigation may not be retarded and, most important of all, that sanitary conditions will be improved.

Not only should sewage be properly disposed of but also dead animals, garbage and night-soil. Incineration is the prescription for this class of waste. All sites for cemeteries, in the future, should be chosen in view of the drainage.

After we have protected our water supply from avoidable pollution, it behooves us to purify the water, because of inevitable contamination, which consists of drainage from barn-yards and from foreign substances distributed by the birds and animals at large. The old saying that running water purifies itself is misleading. It is true that a certain degree of purification takes place, but the life of bacteria in water varies according to food supply and environment. Disease-producing organisms have been known to live in water for weeks.

Modern science has brought forth an American mechanical filter, commonly known as the rapid sand filter. Four distinct processes are usuallly carried on in this filter: First, coagulation; second, sedimentation; third, filtration; fourth, sterilization. In the first stages of the process a solution of aluminum sulphate or ferrous sulphate is added to the raw water. The coagulants react with the carbonates and bicarbonates

forming a flocculent precipitate. The particles of mud and silt are drawn together, and in settling many of the bacteria become entangled. A period of four hours is usually sufficient to settle all particles held in suspension. Upon leaving the settling basin the liquid passes through sand beds, and the remaining bacteria are caught in the sand. The sand is washed whenever the gauges indicate that the filter is becoming highly clogged, the wash waters running off into the sewers. After leaving the filter bed the liquid is made sterile by a hypochlorite of lime solution, or by chlorine gas. The best water treatment works in Texas are producing a water which comes up to the standards of the United States Treasury Department.

It is estimated that the average cost of a sand filter plant is about $25,000 for each million gallons daily capacity. This includes buildings, filter beds and storage basins. At six per cent this amounts to four dollars per million gallons. Adding six dollars for the cost of operation and maintenance of the filter plant brings the cost up to a total of ten dollars per million gallons. On the basis of one hundred gallons per capita per day consumption, the total cost of filtration will not be over fifty cents per capita per annum. This is a rather cheap form of health insurance against water borne diseases.

It is to be understood that different waters require different treatment, and that prior to prescribing a treatment a diagnosis of the water ills should be made.

Reference might here be made to certain well advertised so-called water purification plants, the installation of which, it is claimed, is a panacea for all water ills. The merits of these plants are on a par with some of the popularly advertised patent medicines.

A modern, scientifically designed water treatment works in the hands of an untrained superintendent, is like a ship at sea with an untrained pilot. Every filter plant should be under daily bacteriological control. The State Board of Health has, in cooperation with the University of Texas, Baylor University and the Dallas Health Department, given short courses of instruction for water plant operators. These schools have been quite successful in raising the standards of filter plant operation, but this process of training operators is slow, for the reason that only about forty towns have seen fit to send their operators to the schools. Water plant operators should be required to produce a safe water, "day by day." Many times men are appointed water plant operators on account of their local political affiliation, or their ability to repair a pump or start an engine. Obviously, there is something wrong with such a system. Operators should by law be required to possess certain minimum qualifications before being granted licenses to operate water plants.

Many small towns are not financially able to secure experts. The state should supply this service when municipal plants are in trouble, but the state can not begin to meet the present demand, with the small appropriation available for this work.

MISCELLANEOUS

ANNUAL MEETING, STATE DENTAL SOCIETY.

The Texas State Dental Society met in its 43rd annual session in Fort Worth, April 16, and continued in session four days. The attendance was a record breaker for this society, there being 450 members registered.

A special feature of the program was the six scientific sections, conducted by members of the society, similar to the post-graduate courses held heretofore.

Of considerable interest to the membership was the lecture and clinic by Dr. Justin D. Towner of Memphis, Tenn., before the general session. The subject was "Relative Value of Hygiene and Prophylaxis and the Treatment of Peridontal Tissues." Also the lecture and clinic given by Dr. Jas. Kendall Burgess, of New York City, the subject of which was, "Pinlays and Crown and Bridge Work." Dr. Burgess is a well-known author on these subjects.

A most interesting program was rendered on Tuesday evening. Dr. Holman Taylor of Fort Worth, read a paper on "Dentistry, An Integral Part of the Practice of Medicine," and Prof. M. H. Moore of Fort Worth, delivered an address on "Hygiene in Public Schools: Particular Attention to Dental Hygiene."

Wednesday night the Fort Worth Dental Society gave a dinner at which the State Society and friends were entertained. There were over 500 in attendance.

The feature of Thursday morning session was a very strong and interesting address on the recently enacted amendments to the Medical Practice Act, by Dr. C. M. Rosser of Dallas, fraternal delegate from the State Medical Association. Following this address the State Dental Society unanimously passed a resolution urging the Governor not to recommenud any legislation that would in any way interfere with the provisions of the Medical Practice Act as amended. The resolutions also protested against any legislation providing for a separate board of examiners for chiropractors.

One of the most interesting of the general clinics Thursday afternoon, was that given by Dr. Geo. Street McReynolds of Temple, Texas, in which bronchoscopy was demonstrated on live dog, which had been properly anesthetized.

The following officers were elected for the coming year: Dr. W. O. Talbot, Fort Worth, president; Dr. W. C. Neal, Abilene, president-elect; Dr. F. F. Brown, Wichita Falls, vice-president; Dr. J. G. Fife, Dallas, secretary-treasurer (re-elected); Dr. F. G. Garrison, Fort Worth, member executive board; Dr. I. F. Clark, Beaumont, member dental board committee; Dr. Leonard C. Snowden, Dallas, chairman clinic committee, 2 years.

The next meeting will be held in San Antonio, unless Texas secures the national meeting for Dallas.

Delegates and alternates were selected from over the State to represent Texas in the national meeting to be held in Cleveland, Ohio, in September.

An invitation has been extended and the effort is being made to bring the meeting of the American Dental Association to Dallas in 1924. A publicity and boosting Committee will attend the national meeting for that purpose.

NOTICE TO PHI CHI.

Texas Alumni of Phi Chi will hold their annual luncheon on the last day of the State Medical Meeting, Thursday, noon, May 10, at Joseph's Cafe, corner of Houston and Ninth Street.

A registration booth will be kept in the Texas Hotel, near the registration booth, and it is requested that all members register there as soon as they have registered for the meeting. This luncheon will not interfere with any part of the program of the State Medical Association. Fraternally, Valin R. Woodward, Secretary.

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES.

Mercurosal. — Disodiumhydroxymercurisalicyloxyacetate. Mercurosal contains from 43.0 to 43.8 per cent of mercury in organic combination. It is claimed that mercurosal is relatively free from irritant action, that it is eliminated without untoward effects on the kidney, and that the toxicity is relatively lower than mercuric chloride or mercuric salicylate. Mercurosal is intended for the mercurial treatment of syphilis. It is administered either intramuscularly or intravenously. Mercurosal is marketed in two forms: Mercurosal Intravenous, tubes containing mercurosal 0.1 Gm., and Mercurosal Intramuscular, tubes containing mercurosal 0.05 Gm. Parke, Davis & Co., Detroit, Mich.—*Jour. A. M. A.*, March 24, 1923.

Pneumococcus Antibody Solution, Types I, II and III Combined.—N. N. R., marketed in packages of one 50-c.c. double-ended vials with a complete intravenous outfit, and in packages of one 50-c.c. double-ended vials. H. K. Mulford Co., Philadelphia.—*Jour. A. M. A.*, March 24, 1923.

Sulpharsphenamine.—The salt, disodiumdiaminodihydroxyarsenobenzenedimethylenesulphonate, adjusted by the addition of inorganic salt to an arsenic content of from 18 to 20 per cent. The arsenic content of 3 parts of sulpharsphenamine is approximately equal to 2 parts of arsphenamine. The actions and uses of sulpharsphenamine are the same as those of neoarsphenamine, over which it is claimed to have the advantage of greater stability of solution in the presence of air and of permitting subcutaneous injection. For subcutaneous or intramuscular use the drug is dissolved in sterile, freshly distilled water in the proportion of about 0.1 Gm. to 0.3 Gc.; for intravenous use a greater dilution is desirable.—*Jour. A. M. A.*, March 31, 1923.

Sulpharsphenamine-Abbott.—A brand of sulpharsphenamine-N. N. R. It is marketed in ampules containing respectively, 0.2 Gm., 0.3 Gm., 0.4 Gm., and 0.6 Gm. The Abbott Laboratories, Chicago.—*Jour. A. M. A.*, March 31, 1923.

PROPAGANDA FOR REFORM.

More Misbranded Nostrums.—The following products have been the subject of prosecution by the Federal authorities charged with the enforcement of the Food and Drugs Act: Vita Oil (Vita Oil Co.), consisting essentially of nonvolatile vegetable oil, mineral oil and volatile oils, including turpentine, clove and cinnamon oils with extractives of red pepper and pepper. Gold Medal Brand Sexual Pills (S Pfeiffer Mfg. Co.), containing phorphorus and extract of damiana and nux vomica. Lovett's Pills (Dr Lovett Medicine Co.), containing iron, sodium and calcium carbonates and sulphates with traces of plant extractives. Savanol (G. P. Steyh), capsules containing a saponifiable oil with traces of savin oil apiol and aloin. Locock's Cough Elixir (I. L. Lyons & Co.), consisting essentially of extract of plant drugs, including ipecac and squill, small amounts of morphin, and acetic acid, sugar and water. Sex-Co. Restorative Tablets (Clyde, Collins Co.), containing strychnin, extract of damiana, iron and phosphorus compound. Compound Tansy, Pennyroyal and Cottonroot Pills (Allan-Pfeiffer Chemical Co.), consisting essentially of iron sulphate, aloes and oil of pennyroyal.—*Jour. A. M. A.*, March 3, 1923.

Peralga, a New German Synthetic.—For the past few years American physicians have been relatively free from the propaganda of the foreign synthetic drugs—real or alleged. Recently, however, there have been signs of revival of this type of product. One of the products being endowed with the halo of creative chemistry, is Peralga (Schering and Glatz), known in Europe as Veramon. The product is claimed to have been originated in the pharmacologic laboratory of Professor Starkenstein, University of Prague (who has lent his name to a number of statements valuable to the proprietary interests). Peralga is claimed to be a definite chemical compound, made by heating a mixture of barbital and amidopyrin, and it is claimed that this compound is absorbed without being split up into its component radicles. The A. M. A. Chemical Laboratory investigated Peralga. The examination developed that Peralga is not a definite chemical compound as claimed, but essentially a mixture of barbital and amidopyrin, containing an impurity produced in the fusion of the mixture. To determine if Peralga will produce any effects different from a mechanical mixture of barbital and amidopyrin in the same proportion, a specimen of Peralga and a mixture of barbital and amidopyrin in the same proportions as in Peralga were sent to the Pharmacologic Laboratory of Cornell University Medical College for comparative tests. The summary of the laboratory report was: "We can see no difference in the behavior of cats toward similar doses of the two preparations; the mechanical mixture made in the A. M. A. Chemical Laboratory and the preparation of Schering and Glatz—and they show very little difference between similar doses of barbital and those contained in Peralga. * * * * Of course there is no chance of making observations on cats that would show analgesic actions in headache. But since the observable effects on cats are so nearly identical, it is only fair to presume that the 'synthetic' and the mixture are practically alike in action."—*Jour. A. M. A*, March 31, 1923.

Biologic Reactions of Arsphenamin.—The complexity of the physical and chemical properties of arsphenamin probably accounts for the complexity of its biologic reactions resulting for the passage through the body. Among the most disturbing of these reactions are the nitritoid or anaphylactoid symptoms occurring after intravenous injection. The earlier studies of the anaphylactoid reaction from arsphenamin cleared up certain features, but left the underlying causes untouched. The investigation of Jean Oliver and his collaborators lead to the conception that arsphenamine can exist in the colloidal state temporarily at least, and that the temporariness of this state is essential to anaphylactoid reactions. The investigators find that arsphenamin has a fairly constant agglutinating titer for blood corpuscles. The presence of electrolyte is essential for agglutination. The work suggests that agglutination by arsphena-

min occurs during the transition stage from its colloidal into the crystalloidal state in the circulation, and that stabilization in the colloidal state prevents the agglutination. From their work they conclude that there are two phases to the reactions from arsphenamin: (1) The early or physical phase, which is concerned with the physical properties of the agent and results in the corpuscular agglutination with multiple embolism, the outcome being fatal sometimes, and (2) the later or chemical phase that results in parenchymatous degeneration of viscera (kidney and liver), this being due to the action of the arsenic ions in the usual way.—*Jour. A. M. A.*, March 31, 1923.

NEWS

Nurses to Meet in Waco.—Committees have been named by the Registered Nurses' Association of Waco, to arrange details in connection with the annual convention of the Texas Registered Nurses' Association, to be held this year in Waco. The gathering will take place the latter part of May.—*Dallas News.*

Veterans' Bureau Leases Kerrville Sanitarium.—Detailed arrangements for the leasing of the Kerrville American Legion Memorial Hospital to the United States Veterans' Bureau, were made by the Board of Control recently before S. B. Cowell, chairman of the board, leaves Austin for Washington to complete the contract.

The contract as proposed by the State board provides for an annual rental of 4.5 per cent of the original cost of the institution, or about $81,000.

The board also proposes to lease the hospital for a year and to give Texas former service men preference in entrance to the institution.—*San Antonio Light.*

State Board Examinations will be held in Austin, June 19-21, 1923. The following schedule will be followed (it will be noted that sophomores taking the "split" examinations, will finish Wednesday, noon):

Tuesday, June 19th, Inspection of Diplomas, 9:00 to 10:00 a. m.; Anatomy, 10:00 to 12:00 a. m.; Physiology, 1:45 to 3:45 p. m.; Chemistry, 4:00 to 6:00 p. m.; Histology, 8:00 to 10:00 p. m.

Wednesday, June 20th, Bacteriology, 8:00 to 10:00 a. m.; Pathology, 10:00 to 12:15 a. m.; Surgery, 1:45 to 3:45 p. m.; Jurisprudence, 4:00 to 6:00 p. m.

Thursday, June 21st, Diagnosis, 8:00 to 10:00 a. m.; Gynecology, 10:00 to 12:15 a. m.; Obstetrics, 1:45 to 3:45 p. m.; Hygiene, 4:00 to 6:00 p. m.

Campaign for Rural Sanitation.—An outline for an extended campaign to better sanitation in rural schools of the State as means of preventing the spread of disease and awakening the country districts to the menace that is said to exist from the present attitude toward sanitary conditions in the country schools, was drawn up in an executive meeting of the Texas Public Health Association, a voluntary organization which has charge of the annual sale of Tuberculosis Christmas seals in the State and which is seeking to co-operate with State authorities in grappling with health problems, held at the Hotel Galvez.

J. W. Butler of Galveston, president of the executive committee, was in charge of the meeting. Other members in attendance were Dr. Z. T. Scott, secretary, of Austin; D. E. Breed, Austin; J. B. Rawlings, El Paso, and Miss Winnie Bracy, assistant secretary, Austin.—*Dallas News.*

The Kansas City Clinical Society has been organized among the clinicians of Greater Kansas City for the purpose of encouraging, developing, organizing and presenting the educational advantages of the clinical material in Greater Kansas City to the profession of the Southwest.

A daily list of clinics at the various hospitals will be published, so that visiting physicians may make their choice of the clinics or laboratories. Similar listings have been in operation in Chicago, New York, Philadelphia and St. Louis for some years.

A well-organized fall clinic will be held in October, 1923. The society has invited a number of eminent clinicians of international reputation to present their specialties at this time. The program is being organized so that every specialty and general practice as well will be covered in these clinics and lectures.

United States Civil Service Positions are being offered. Applications for inspector and agent under the antinarcotic act will be received until May 15. Salaries range from $1,800 to $2,500 per year, plus the increase of $20.00 per month granted by Congress. Applicants for the position of inspector must be graduates of recognized medical colleges or colleges of pharmacy, and have had at least one year's experience in medical or pharmaceutical work. Applicants for the position of agent must have had at least one year's recent experience in the investigation of major criminal activities, and in securing evidence necessary to the arrest and conviction of violators of law or military regulations. The latter need not be physicians or pharmacists. Competitors will not be required to report for examination, but will be rated on their physical ability, training and experience. Full information and application blanks may be obtained from the U. S. Civil Service Commission, Washington, D. C.

SOCIETY NEWS

Bexar County Medical Society met March 1, with 69 members present.

The meeting was devoted to a debate on "Cesarian Section." Dr. L. L. Shropshire, speaking in the affirmative, stated that he had delivered a child by cesarian section nineteen years ago, in a patient who had previously had a ventral fixation. In his opinion, the vast majority of malpositions in primipara could be better served by section than by high forceps, and that if as much consideration were given to the life of the child as to that of the mother, the section would be more frequently made and the forceps less frequently used. He decries the common practice of resorting to cesarian section after the patient had become exhausted and repeated examinations had been made, the membranes ruptured, etc. For such cases he had used in his practice a large rubber dam, which fitted around the uterus and prevented the flow into the abdominal cavity of infected material. He thought the physician who made a practice of applying high forceps should be penalized. He thought many of the so-called idiopathic epilepsies were the results of head injuries received either in forceps delivery or from prolonged pressure of the head against the pelvic bone. A cesarian section does not mean that all future deliveries must be done in that manner.

Dr. R. E. Bowen, speaking on the negative, urged that country practitioners are frequently forced to use forceps because facilities for cesarian section are not present. He agreed that the mortality in cesarian section incident to operation in infected cases is not properly chargeable to the operation itself. The difficulty is to know just when section should be resorted to. Mortality is lower when the operation is done early, but only in a few definite cases can it be determined at such a stage that the operation will be necessary or advisable.

Dr. Frank Paschal read a paper on the subject, "Cesarian Section." Dr. Paschal held that the operation should not be advised simply because the patient had been in labor for a long time. There is abnormality of the birth canal in one case in fifty. For this reason and because of the danger of enteroptosis, or adhesions to the uterine scar, he felt that cesarian section is being resorted to with greater frequency than is required. During fifty years of practice, nineteen of which had been spent in Mexico, where the people are both prolific and rachitic, he had seen but three cases that required section. In one, the uterus had ruptured and in the other two there were markedly contracted pelves.

Dr. George H. Lee of Galveston, quoted statistics showing a mortality of 0.1 per cent of labor terminating naturally and 1.8 per cent where cesarian section is resorted to. He felt that there are still cases in which high forceps and version are advisable if skillfully done. He felt that not enough attention is now being paid to mothers during the development of the fetus, by way of measuring the pelvis and the fetus. Induced labor will frequently solve difficulties arising which might subsequently be met only by the use of high forceps or cesarian section. Among the absolute indications for cesarian section, he mentioned, (1) where the conjugata vera is from 5.5 to 6.5 cm.; (2) where there are hard, solid tumors filling the pelvis; (3) cysts in the pelvis that cannot be displaced; (4) inoperable cancer of the uterus; (5) transverse presentation; (6) pseudo-osteotomy. Among the relative indications are, (1) conjugata vera 7.5 to 9 cm.; (2) placenta praevia centralis; (3) concealed hemorrhage due to loss of contractile power of the uterus; (4) cardiac decompensation; (5) advanced pulmonary tuberculosis; (6) so-called hourglass contraction; (7) ventral fixation; (8) certain monstrosities; (9) habitual death of child during labor. In deciding upon cesarian section he thought that due regard should be given to the fact that in a large percentage of cases subsequent labors must be terminated in like manner. He hoped that the fact that the operation saves the time of the doctor would not influence decision in its favor.

Dr. Shropshire, closing the discussion, urged that the statistics offered by Dr. Paschal do not show the stillbirths or deaths which come a few hours after delivery, and which could have been prevented by resorting to cesarian section in due time. He did not consider it fair to compare statistics of the large surgical hospitals with those of the general lying-in hospitals. He could see no reason for adhesions to the uterine scar if the operation is properly done.

By vote it was declared that the negative side had won the debate.

The secretary was directed to thank Mayor O. B. Black for his active interest in behalf of the Medical Practice Act, and for his work in Austin recently in support of the measure.

Dr. Cyrus R. Baker was elected to membership.

The following section chairmen were appointed for the months of April and May: Dr. J. S. Steele, Surgery, Eye, Ear, Nose and Throat; Dr. Clara G. Cook, Pediatrics and Neurology; Dr. David Cerna, General Medicine; Dr. C. W. Taylor, Obstetrics and Gynecology.

Bexar County Medical Society met March 8, with 37 members and visitors in attendance.

Lieutenant Colonel R. F. Metcalfe, M. C., U. S. A., read a paper on "The Cause of Death in Intestinal Obstruction, with Advice As to Treatment."

Dr. Russ, discussing the paper, thought that of the several theories advanced by the essayist as to the cause of the severe toxemia in this case, the most logical was that favored by him, namely, the theory advanced by Dr. J. W. Ellis that there is a proteolytic ferment formed by the cells of the mucosa of the duodenum. The symptoms are nearly identical with those found in cases of acute pancreatitis. The pancreas is the result embryologically of the budding or infolding of the intestines. This places the two conditions on at least a comparative basis. As to treatment, the most important thing to do is to intervene surgically, even before the diagnosis may be made with certainty; it is usually too late to operate after the diagnosis may easily be made. Obstruction following operation gives a better prognosis if it occurs several days rather than several hours afterward, for the reason that there is not so much confusion between the symptoms of the obstruction and those incident to the operation. He felt that mortality could be lowered by the adoption of the slogan, "When in doubt operate," which would be a saver of valuable time. When resection is required in such cases, it is rarely advisable to make anastomosis. He prefers leaving two ends open, perhaps with a tube in each end. Operation can easily be completed when the patient has recovered somewhat.

Colonel Phillips stated that he had recently operated in six such cases, with pronounced success, which success he attributed to early diagnosis and enteroenterostomy with free drainage. Peristalsis was visible in each of his cases.

Dr. S. P. Cunningham stated that in fat patients, where peristalsis could not be seen, valuable aid in diagnosis is rendered by the stethoscope. A gurgling sound can be heard where there is obstruction. Fecal vomiting as a diagnostic point is not of much value because it occurs so late in the case.

Dr. J. W. Nixon, Jr., reported a case in which he had operated for obstruction at the ileocecal valve in a man 62 years of age. A second operation was necessary two weeks later because of obstruction two feet above the site of the first obstruction. In the second operation it was noticed that the mesentery was much too long. This was shortened to one-third of its former length. There has been no return of the obstruction.

Dr. O. J. Potthast suggested that as proteolytic poison played such a prominent part, blood transfusion might produce results in such cases.

Dr. Dudley Jackson reported having operated in some twelve or fourteen cases, in each of which death supervened. However, they were all poor risks, as the obstruction had existed from four to eight days in each case. One patient was in extremis when operated on but lived much longer than could have been expected, which he attributed to the fact that he had placed tubes in both ends of the intestine and had used a rectal tube, with frequent irrigations of the duodeum through a nasal duodenal tube.

In closing the discussion, Colonel Metcalfe urged that if an enterostomy is to be done it should be done as near the duodenum as possible, since the toxemia is worse in that part of the intestine. Where the obstruction is low the toxemia is less and the operation can be delayed longer. The first effort should be to locate the obstruction, after which steps should be taken to remove it. If there is a question as to the vitality of the bowel, the best plan is to drain and resect, but not anastomose. There is rarely need for placing tubes in the ends of the bowel as long as they are out on the abdomen.

The application of Dr. Jessie Southgate for membership was referred to the board of censors.

Dr. Russ discussed the recent medical legislation. He insisted that if the Medical Practice Act, as so splendidly amended, is to be enforced, the public must be educated to the necessity of its enforcement. He deplored the fact that not 10 per cent of the medical profession can intelligently discuss this question. It is not possible to teach unless the teacher himself is informed.

The society directed the secretary to thank Judge A. M. Moursund for his efforts in behalf of the Medical Practice Act legislation.

Bexar County Medical Society met March 15, with 83 members and 10 visitors present.

Dr. Marvin L. Graves of Galveston, delivered an address on "Some Endocrine Disturbances of the Pituitary Gland," which was illustrated by lantern. Several specimens of the gland were exhibited. In his discussion, Dr. Graves laid emphasis on the close proximity of the gland to the third, fourth, ophthalmic and maxillary branches of the fifth cranial nerve. Taking into account its small size, functional activity and influence on the general economy, this is the most important of the glands of internal secretion. In addition to the well known function of this gland, it is thought that it has a direct relationship to the function of the other endocrine glands, particularly the gonads and suprarenals. The many functions of the posterior glands and their application in medicine, are well known. In adition, there is some relationship between this portion of the gland and the mammary gland, which influences milk secretion. Whether this portion of the gland influences sugar tolerance is so involved in dispute that it is not possible to pass judgment. Numerous photographs of cases involving abnormality of this gland were shown by the speaker.

Discussing the subject, Dr. Malone Duggan said that no doubt in the near future there would be greater specificity in the treatment of these cases. The chemistry of the internal secretions is being rapidly worked out, alone the line of the isolation by Kendall of thyroxin from the thyroid gland. When this has been accomplished definite facts may be established and related. The principal advance to date has been the relating of symptoms so that thorough history taking may indicate fairly well the gland or group of glands primarily at fault.

Closing the discussion, Dr. Graves urged that in cases involving glandular function more than one gland is usually affected. The treatment should be directed toward the gland primarily at fault, to be followed by treatment of other glands at fault. The use of the pleural glandular products is not scientific, and is successful only by chance. The only hope of cure of chronic cases is to correct the fault sufficiently near the beginning to obviate the faults of development in glands depending upon the diseased glands. As an example, thyroxin in early cases of cretinism is successful, whereas later in life the chances for cure are extremely remote. The dosage of glandular substances must be determined in each case. These substances deteriorate rapidly, and fresh, reliable products should be used.

Bexar County Medical Society met March 22, with forty-eight members and three visitors present.

Dr. Moise D. Levy of Houston, read a paper on "Some Common Intestinal Flagellate; Symptoms, Diagnosis and Treatment," in which he directed attention to the divergence of opinion among the authorities as to whether these organisms are pathologic. The author believes, with the majority of observers, that under certain conditions they may become so. He mentioned two cases of liver abscess evidently caused by trichomonas. Treatment with Fowler's solution, and sometimes by transduodenal lavage with arsphenamine and thymol, is most successful in these cases.

Dr. P. I. Nixon stated that he had noticed in a large number of cases in which he had been studying amoeba, the latter were easily gotten rid of where the flagellates were present. He had formerly advised giving 1/10 grain doses of calomel every hour, for ten or twelve doses, repeated every five or six days. He had gotten good results by this treatment. However, at the present time he advises 5 grain doses at night for five nights, from which he thinks better results will be had. Cases of this sort are less often seen at the present time, just as are cases of amoebia, which he attributes to the fact that doctors now know better how to handle them.

Dr. Mary Harper reported a case of "Status Lymphaticus," in which there was not only enlargement of the thymus but of all the lymphatic tissues. The true condition of this case was revealed at autopsy, which is the rule in such cases. The diagnosis can be made only following complete and careful physical examination, including the use of the *x*-ray. For several years the *x*-ray has been given precedence over radium and surgery in the treatment of thymus, but radium has increased in popularity of late. A case of twin boys was reported. The twins were born in a second pregnancy, in which pyelitis appeared during the second month, and nephritis with oedema in the latter months. Birth was about five weeks premature. The combined weight of the twins was 8 pounds. Both were jaundiced and cyanotic. Death occurred in one of the twins at 22 months. At this time the weight of each twin was 25 pounds. Both had suffered from convulsions and were rachitic until sixteen months of age. The baby that died had exhibited almost every kind of convulsion. The fatal convulsion began at 7:00 p. m. and ended in death at 3:00 a. m. The diagnosis was made at autopsy.

Discussing the paper, Dr. McGlasson stated that he had treated two cases with radium and two with *x*-ray, with about equal results. He called attention to the cases reported by Brayton, in which there were permanent cures in each of 41 cases in which he had used radium.

Dr. Levy stated that it is not easy to decide from an *x*-ray picture whether or not the shadow is that of the thymus.

Dr. C. E. Betts read a paper on "Some Factors to Consider in the Diagnosis of Pleurisy in Children and Young Adults."

Discussing the paper, Dr. Kahn stated that in his opinion the effusions following pneumonia in children is more often purulent than in similar cases in adults.

Dr. Harper thought the method of choice in the treatment of purulent effusion in children, is drainage with a large tube. Resection of a rib is usually not necessary.

Dr. Dudley Jackson called attention to the similarity in symptoms of appendicitis and pleurisy from tuberculosis.

Dr. Jessie Southgate was elected to membership.

The secretary was directed to convey to Dr. Robert E. Moss, who had recently removed to LaGrange, Texas, the good will and best wishes of the society, and express appreciation of his services to the medical profession while a resident of the city of San Antonio.

Bexar County Medical Society met March 29, with twenty-eight members and three visitors present.

Dr. L. B. Jackson read a paper on "Sterility."

Discussing the paper, Dr. Stout urged that the seminal fluid always be examined, since statistics show that the responsibility for sterility in 50 per cent of the cases rests upon the fact that the spermatozoa have unusually thickened capsules.

Dr. Dudley Jackson did not think that dilatation and curettage is effective in correcting sterility, except to the extent that the mucous plug usually accompanying endometritis is done away with in those cases in which the curettage relieves the endometritis.

Dr. O'Brien believes acid discharges are frequently responsible for the condition, and that sometimes there is a stricture in the region of the internal os.

Closing, Dr. Jackson stated that the thickened capsule of the spermatozoa, referred to by Dr. Stout, is due to disturbance of the internal secretions. Sterility following pregnancy is usually due to infection at the time of labor. He condemned the indiscriminate use of the pessary.

Dr. Dudley Jackson reported the case of a negro woman, aged 23, who previously submitted to a curettment and removal of one tube. She complained later of nausea, constipation, and the like, which symptoms were aggravated during the menstrual period, and a swelling was noticed in the right inguinal region. A diagnosis of gonorrheal salpingitis and inguinal hernia was made. The operation disclosed a tuberculosis salpingitis. In such cases as this the speaker advocated the removal of the tube. He gave it as his opinion that such cases are more numerous than thought for. They are all practically secondary and the prognosis is grave where there is an active process elsewhere.

Dr. L. B. Jackson thought it nearly impossible to make a correct diagnosis of tuberculosis salpingitis.

Closing, Dr. Jackson stressed the importance of correct diagnosis in many abdominal conditions, particularly in those cases where it is so easy to say "appendicitis," "salpingitis," etc. A little time devoted to such a case may enable the physician to determine whether he is dealing with gonorrheal, streptococcic or tuberculosis infections.

Resolutions of condolence on the death of the father of Dr. A. A. Brown were adopted.

Bexar County Medical Society met April 5, with thirty-six members and four visitors present.

A letter from Representative T. P. Hull, informed the society that he had voted against the Davenport amendments to the bill carrying amendments to the Medical Practice Act, notwithstanding that the State Medical Journal had stated otherwise. He pledged his support to this and similar measures in the future. The secretary was instructed to write Mr. Hull and thank him for his support of this measure and his interest in medical legislation as a whole.

The Fiesta Association asked the secretary to help secure a float representing the Medical Department of the University of Texas, in the forthcoming celebration. It was suggested that a float with three persons, representing the schools of medicine, nursing and pharmacy, would be appropriate. Drs. Dudley Jackson, J. M. Moore and Malone Duggan were appointed a committee to look into the matter.

Dr. W. B. Russ discussed the legislative situation as it relates to medicine, and deplored the fact that many newspapers oppose the medical profession in their desire and efforts to protect the people against charlatanry, ignorance and quackery. As a rule these statements are wilfully or ignorantly wrong. The statistics quoted are usually created out of nothing. He deplored the fact that the average doctor is no better informed on these subjects than is the layman, and therefore not in a position to defend his organization. This gives support to the claim by the opposition that the great bulk of the medical profession do not care anything about the legislation demanded by the organization. He urged that the society appoint a committee to take those matters up and at the same time get in touch with legislators. He deplored the fact that three of the Representatives from Bexar County had joined the chiropractors and Christian scientists in fighting the medical practice act amendments. The suggestion was adopted by the society and the following committee appointed: Dr. D. Berry, chairman; Dr. E. V. DePew, secretary; Drs. W. B. Russ, T. M. Dorbandt, T. N. Goodson, Robt. E. Bowen, W. H. Hargis, I. L. McGlasson, W. A. King, S. P. Cunningham, John W. Ellis, Frank Paschal, L. L. Shropshire, S. T. Lowry, J. A. Watts and L. M. Weinfield.

Dr. A. A. Brown read a paper under the title, "How Do You Do It?"

Dr. I. S. Kahn read a paper on "Case Report of Idiopathic Pneumothroax Apparently Non-tuberculous," which was illustrated with lantern slides.

Discussing the paper, Dr. Nixon stated that the insurance company did not question the claim, but that this pneumothorax was traumatic, although such question could easily have been raised.

Dr. Betts thought that this patient would probably develop some pathology within a few months. Trauma need not be very severe to produce these results.

Dr. Kahn stated that he had reported the case because such cases are extremely rare. His first thought was that the case was tuberculous, but he could not confirm such a diagnosis either from the family history, clinical history, physical examination of the patient or examination of the sputum. The probable cause was an emphysema resulting from an old asthma. In tuberculous pneumothorax there are practically always adhesions which may be shown by the *x*-ray. The unusual thing in this case was the fact that 800 c.c. of air had to be removed before absorption took place. As a rule, absorption occurs without the withdrawal of any air.

Dr. W. M. Wolf read a paper on "Indications for Exploratory Operations."

Discussing the paper Dr, Russ quoted Dr. Chas. Mayo in his assertion that 45 per cent of the cases requiring surgery in the abdomen are confirmed at diagnosis. He advised against exploratory operations in neurasthenics. Many of these people imagine there is something wrong inside, and operations in such cases are nearly always devoid of results and generally will make matters worse. He emphasized the point the author made in urging against delay in suspected intestinal perforation, intestinal obstruction and the like.

Dr. DePew stated that neurasthenia should always be ruled out before considering surgery. Very thin people often suffer from abdominal pains, sometimes well localized. He related a case in which about forty pounds had been lost in the period of a year, the patient complaining of many vague abdominal pains. Under proper feeding the patient regained the lost weight and has since enjoyed perfect health.

Closing, Dr. Wolf related the procedure of Dr. F. P. Herff in suspected hemorrhage. A very minute incision is made in the abdomen under local anesthesia, without the necessity of removing the patient from bed. Any existing hemorrhage is made evident and operation is proceeded with accordingly.

Major J. H. Trinder read a paper on "*X*-Ray Treatment of the Tonsils," in which he reported results in about 200 cases under treatment. Complete laboratory reports were made. In a number of these cases one tonsil was removed, carefully weighed and measured, and the other tonsil given a series of treatments with the *x*-ray. The treated tonsil was then removed, and its measurements compared with those of the untreated tonsil. He was surprised when it was disclosed that the treated tonsil had lost but little if any in size and weight, in view of the fact that invariably they appeared to be very much smaller. He concluded that reduction in size was in fact a retraction back of the pillar. The retracted tonsil had more fibrous tissue, but the tonsillar tissue did not seem to have been absorbed. In view of the fact that the treated tonsils were subject to reinfection, he could not see the reason for advocating *x*-ray treatment, except in patient who are poor operative risks and those who absolutely refuse operation. In

his opinion, the real good of *x*-ray treatment of the tonsils comes from the fact that the tonsillar crypts are widened, thereby promoting drainage. The best results in *x*-ray treatment of the throat was in granular pharyngitis, in which cases absolute relief from distressing symptoms could be promised.

Captain Livesay, who had done the laboratory work in the cases recited by Major Trinder, said that he was at a loss to explain the apparent shrinkage of the tonsils back of the pillar. He could hardly attribute this to fibrous tissue, since the *x*-ray cured keloids, which are but masses of that kind of tissue.

Dr. Eldridge Adams reported a wide variety of results in the ten or twelve cases he had treated with the *x*-ray. In his opinion it is the large tonsil which appears to shrink in size. The small, buried fibrous tonsil is usually the most dangerous and it does not behave in this way. He agreed that results were good in pharyngitis.

Dr. Judkins had obtained similar results in a small number of cases, and accomplished brilliant reults in cases of granular pharyngitis. His patients had often complained of dryness of the throat, which was noticed after the fourth exposure in the treatment of pharyngitis.

Dr. Wolfe felt that such reports as those made by Major Trinder were of extreme value, particularly at this time, when there are so many over-enthusiastic reports in favor of the *x*-ray treament of tonsils being made.

Bowie County Medical Society met in Texarkana, March 23, with the following members and visitors in attendance: Drs. Helms, J. K. Smith, Chace, White, Kittrell, Lennard, Lanier, Fuller, Middleton, Hays, Collom, Murry, C. A. Smith and Portwood.

Dr. L. H. Lanier read a paper on "Certain Observations in Relation to Prevention and Treatment of Deafness Due to Chronic Hypertrophic Otitis Media," which was discussed by Drs. Fuller and Portwood.

Dr. R. Q. McClure was elected to membership.

Dallas County Medical Society met March 29, with 52 members present.

Dr. E. R. Carpenter reported the case of a child two years of age, who had suffered convulsions as a result of infection from an undiagnosed mastoiditis complicated by a serious meningitis. Complete recovery followed appropriate operation.

Dr. Carpenter also reported the case of a boy, 17 years of age, who was in the so-called dream state, from which he would be aroused by intense fits of anger at frequent intervals. This patient was relieved by spinal drainage and large doses of salol coated tablets of sodium chloride, every few days.

Dr. Curtice Rosser read a paper on "Stricture of the Rectum," which was illustrated with lantern slides. The paper was discussed by Drs. Dickey and Ellis.

Dr. H. M. Winans read a paper on "Food Errors in the Treatment of Nephritis," which was discussed by Dr. Giles.

Dr. K. M. Lynch read a paper on "Conditions Affecting Blood Grouping and Transfusion," which was discussed by Dr. Bell.

Dr. H. L. Cecil read a paper on "Pyelitis; Contributing Factors in Treatment."

Drs. C. P. Carlisle, Robt. F. Short and Thos. W. Glass were elected to membership.

The following were accepted to membership on transfer: Dr. W. G. Carnathan from Davidson County, Tennessee, and Dr. R. S. Payne from Ellis County, Texas.

Applications for membership of Drs. W. E. Massey, Sim Driver, Vinney L. Smith and H. G. Garrett, were referred to the board of censors.

Dallas County Medical Society met April 12 with 53 members present.

Dr. R. B. Giles reported a case of spontaneous pneumothorax occurring in a young man 27 years of age, apparently perfectly healthy. A rupture of the left lung occurred while the patient was driving in an automobile. The symptoms complained of at the time were, severe dyspnoea, fast pulse and severe pain around the heart. The first diagnosis was heart trouble, but the physical signs and fluroscopy revealed about 25 per cent collapse of the left lung.

Dr. Jno. S. Turner reported an unusual case of tumor of the brain.

Dr. B. L. Schoolfield exhibited some *x*-ray pictures of a congenital dislocation of the hip, taken of a patient upon whom he had recently operated.

Dr. J. H. Black read a paper entitled, "A Criticism of Municipal Quarantine," which was discussed by Drs. Cooke, Davidson, Gilbert, Crook and Patillo.

Dr. J. M. Martin read a paper on "Fractional *X*-Ray Doses in the Treatment of Skin Malignancy," which was illustrated by lantern slides. The paper was discussed by Drs. Millwee, Riddle, C. C. Nash and Bell.

Dr. W. M. Lively read a paper on "Puerperal Convulsions."

Dr. L. W. Fetzer reported progress in studies with yeast components, in the treatment of diabetes mellitus. Extracts of yeast were found to reduce the blood sugar in rabbits rendered hyperglycemic by experimental means. The work is to be continued and extended to humans. Dr. Fetzer thinks that extracts may ultimately supplant insulin in the treatment of diabetes.

Drs. H. G. Garrett, Sim Driver and V. L. Smith were elected to membership.

Membership by transfer was granted to Dr. Leland C. Ellis, from Grayson County, and Dr. J. B. Baldwin, from Harrison County.

The applications of Drs. S. R. King, M. M. Smith, Jr., and Kelley Cox were referred to the Board of Censors.

Harris County Medical Society met March 17 with 71 members present.

Dr. B. F. Smith reported a case of tabes, in a man of 56 years of age. There was little evidence of the disease, except partial blindness and severe pains in the legs. The family history was of little importance, except that several members of the family had died of apoplexy. From time to time the patient has lost consciousness, and he has also known that there was some limitation of his visual field. The laboratory findings are negative, including the Wassermann on the blood and spinal fluid. There was little evidence of the Rhomberg sign, and the knee reflexes were absent on left side and diminished on right. In presenting the case Dr. Smith stressed the importance of recognizing the disease in spite of the absence of classical signs and symptoms. The question of treatment is important. It is difficult to pronounce a patient syphilitic without more evidence than is shown in this case. This is the degenerative type of the disease.

Dr. E. L. Goar stated that these are not the typical Argyll-Robertson pupils, and is inclined to think that the pupillary defect is due to a syphilitic invasion of the choroid. In other words, the eye defects are due to a local rather than a systemic condition.

Dr. Greenwood stated that it is difficult to make a diagnosis in such cases. He thinks that this case should be actively treated for syphilis. He was inclined to think this is a recent case, if tabes at all.

Dr. Applebee was of the opinion that the diagnosis in this case is correct. There are many cases of tabes with negative Wassermann reactions.

Dr. C. C. Green questioned the diagnosis in any case with so little evidence to bear it out.

Dr. J. H. Graves stated that in this class of cases the old mixed treatment is best.

Dr. Hodges stated that he has seen a similar case, with negative laboratory findings, in which death from tabes eventually occurred.

Dr. Clara Duncan read a paper, "Metastasis of Carcinoma of the Breast." Cancer of the breast is second in occurrence only to cancer of the uterus. In breast removal there are more recurrences in the skin where a wider margin of skin removal is practiced and a lesser removal of the deeper fascia. In spite of the fact that all microscopic evidence of the disease are removed, there is often a recurrence, because there remains microscopic portions of the infection in the connective tissue framework. The lymph flow above the umbilicus is toward the axilla and that below the umbilicus toward the inguinal region. Cancerous lymphatics have been found in the pectoral fascia before the growth has become adherent to the muscle. In many cases of epigrastric invasion from breast cancer there is no indication of glandular invasion in the abdominal wall. Breast cancer spreads primarily in parietes along the deep fascia, and only secondarily involves the skin. It is of the greatest importance to make an extensive removal of the subcutaneous and deeper tissues, as well as a wide removal of the skin.

Dr. Kirkham said that in the wide removal of subcutaneous tissue it is important to avoid injury to the spinal accessory nerve. The time of metastasis in these cases is unknown. In a patient who is heavy the prognosis is graver than in one of a lighter build. Many abnormal fractures are accounted for by the fact that there has been metastasis of cancer to these bones.

Dr. Gavin Hamilton said that a bloc dissection with complete removal of fascia, is necessary in treating these cases. One cannot be too radical in cleaning the chest wall.

Dr. Frank Barnes said that the prognosis in these cases depends to a certain extent on the age of the patient. In the young, where there is evidence of glandular involvement, it is already almost an inoperable case. In elderly people the prognosis is better.

Dr. W. O. Williams read a paper, "Litholopaxy in Cases of Bad Surgical Risk," in which he urged that the operation is too seldom resorted to. The operation is applicable only where there is a passable urethra. It is the safest of the operations for removal of stone from the bladder. Where litholopaxy is followed by cystocopy, the results are as certain as by any other method, and the discomfort to the patient is much less. It is the operation of choice for all uncomplicated cases where there is no dense foreign body for a nucleus and in which the proper sized instrument can be passed.

Dr. B. W. Turner said that most stones less than 2 cm. in diameter may be removed by this method. The death rate in this operation is somewhat high, owing to the fact that many of these stones are imbedded and it is necessary to traumatize to remove them. Also, there is often trauma to trigone, with a consequent suppression and death.

Dr. White said that there is considerable danger in this operation; also considerable likelihood of recurrence.

Harris County Medical Society met March 24, with 42 members present.

Dr. Frank L. Barnes reported a case of congenital cyst in the neck of a child six months of age. The tumor was in the neighborhood of the left lower jaw. It had grown slightly after birth. The child was in excellent health. The tumor extended from the angle of the maxilla to chin, and down almost to the clavicle. It was hard and firm in some areas and soft and cystic in others. The mass was removed and drainage instituted. Within 48 hours the drains were removed, at which time considerable salivary fluid escaped. More fluid flowed from wound in 24 hours, but there was no evidence of infection. The specimen was found to consist of a considerable section of mandible, a tooth, some hair and numerous cysts, which were filled with a brownish yellow, grumous material. The diagnosis was, congenital cyst of the neck of bigerminal origin.

Dr. H. L. D. Kirkham agreed with Dr. Barnes that this was not a bronchio-genetic cyst, because of the location. It does not conform to any of the early clefts. Also, thyroglossal cyst is ruled out on account of the fact that these cysts are always in the midline. He believed this to be a teratoma.

Dr. A. H. Braden was of the opinion that it is not possible to make a differential diagnosis between teratoma and dermoid by microscopic examination alone.

Dr. Barnes said that he bases his diagnosis of teratoma largely on the history of twins in the antecedents of this patient's mother.

Dr. Barnes also reported a case of general carcinomatosis following an initial lesion of the breast. There was an extensive involvement of the abdominal and pelvic contents, with considerable matting together of the parts.

Dr. E. W. Bertner reported a case of pelvic peritonitis in a female, white, age 30, who complained of severe abdominal pain, high temperature, frequent painful urination and vaginal discharge. The history was practically negative. She was married, with no children, but one abortion at three months. She has been under treatment for the bladder for the last two years. Has had irrigations, etc., and has been told that she had tuberculosis of the bladder. Menstrual periods painful and prolonged. The lower abdomen was painful, somewhat rigid in the lower portion, urethra red and inflamed, cervic enlarged and uterus fixed and painful. There was a mass in the cul-de-sac and the uterus was about twice the normal size. Considerable pus was obtained from the cul-de-sac. After two weeks a laparotomy was done and two large pus tubes removed. The abdomen was washed with ether. The patient was in a semi-shocked condition. Hypodermoclysis of normal saline was used 2,000 c.c. immediately and within the next 24 hours 10,000 more, and 1,000 c.c. every six hours for the next five days. Morphine was given every three to four hours as indicated. Food was begun on the fifth day.

Dr. Gavin Hamilton thought that one must determine the etiology of a peritonitis before deciding upon the method of treatment. Most cases of this nature were due to Neisserian infection, and in such cases he does not believe in drainage. When the temperature drops to normal is the most opportune time to operate. When the infection has somewhat subsided, it is time to operate. He believes in giving the patient time to develop an immunity. Streptococcic infections are of much more serious nature, and operation does little good. He believes it is best to operate early in most cases of peritonitis, and does not believe pelvic drainage is worthy of trial in most cases.

Dr. Hodges thought it a serious question whether the tubes should be removed in gonococcic infections. Many of these cases will subside and the tubes eventually function if rest and conservative treatment is resorted to.

Dr. Frank Barnes said that in the staphylococcic and streptococcic infections, drainage by the pelvic route may do good, especially if there is pus formation. Treatment of any sort in general peritonitis is usually ineffectual. In cases of perforated appen-

dixes there should be an exploration of the pelvis, to determine whether there is pus there.

Dr. P. H. Scardino read a paper, "Fascia Lata Transplantation for the Cure of Post-Operative Hernia," The patient referred to in the paper was shown, as well as lantern slide demonstration of the operation. The case reported was that of a boy of 18 who had been operated on previously and had a post-operative abdominal hernia. A portion of the fascia lata was transplanted to the herniated area, after a thorough reformation of the abdominal wall. The success of the operation is evident. There is no recurrence. The author believes (1) that autogenous, free fascia lata transplants are best; (2) where autogenous transplant cannot be obtained, a donor whose blood agglutination test is compatible with that of the recipient, should be chosen; (3) the transplant should be placed under slight tension; (4) complete hemostasis should be had; (5) proper closure of the rent in the thigh is necessary, to prevent herniation of the muscle, and (6) abdominal belts should not be worn.

Dr. Gavin Hamilton stated that this form of transplant has been in vogue for a long time, and it is his belief that the fascia lata is the best tissue for the purpose. It is useful in filling out defects in the fleshy portion of the body in different localities. He does not see the necessity of placing tension on the flap.

Dr. Barnes said that one should not lose sight of the fact that it is best to secure the tissues for transplantation as near the site of the operation as possible.

Houston County Medical Society met in Crockett, March 13, with the following members in attendance: Drs. T. M. Sherman, R. B. and R. L. Barcley, G. R. Taylor, E. B. Stokes, J. S. Wootters, W. W. Latham, W. C. Lipscomb, M. A. Thomas and R. E. Dillard.

Dr. R. L. Barkley presented a patient with enlarged prostate, for the opinion of the society in the matter of diagnosis and treatment. Because of the age of the patient surgery was not advised.

Dr. R. E. Dillard presented an infant five months old, with a congenital tumor under the lower jaw. The tumor had grown very little since birth. The concensus of opinion was that the tumor should be removed at once. Reports from the case since the meeting are to the effect that the tumor proved to be a dermoid cyst, containing part of a jaw bone, a few teeth, numerous cysts, some hair and much grumous matter. The patient recovered nicely from the operation.

Milam County Medical Society met in Cameron, April 10, with the following members and visitors in attendance: Drs. Epperson, Taylor, Monroe and Denson of Cameron; Coulter, Crump and Barclay of Rockdale; Johnson, Potter, Robinson, Pollok and McReynolds of Temple; Bundy of Marlin; Anderson of Thorndale; W. A. Denson of Ben Arnold; Herring of Burlington; J. Z. Young of Buckholts; R. J. Alexander of Waco; McGlasson and DePew of San Antonio; Alsup of Little River, and Bledsoe of Taylor.

The following program was rendered: "Bone Surgery," Drs. R. E. Bledsoe, R. J. Alexander and J. B. Johnson. "Syphilis," Drs. DePew and Robinson; "Cancer of the Skin," with lantern slide illustrations, Dr. I. L. McGlasson.

A banquet was given visiting physicians, at the Auditorium Hotel.

Tarrant County Medical Society met March 20, with with 51 members and visitors present.

Dr. E. W. Tisdale presented a patient, a young man 19 years of age, suffering peculiar and extensive heart pathology. The patient was examined by most of the members present and the case discussed by Drs. Barcus, Homan of El Paso, Whitsett, Schoolfield, Edwin Davis and W. A. Duringer.

Dr. C. F. Clayton presented a patient recently operated upon for the correction of deformity and distress following nerve injury. The patient had been before the society on two occasions previously, before the operation, for purposes of study. The operation had relieved the distress and the deformity. The case was discussed by Drs. Needham, Shannon, W. L. Brown of El Paso, and Wilmer Allison.

Dr. W. L. Brown of El Paso, delivered an address on osteomyelitis following small-pox, termed osteomyelitis variola, which was illustrated with lantern slides, made from photographs of his own patients and from other reported cases. The bones showed necrotic areas and destruction, which occurred without suppuration. The long bones in the neighborhood of the knees, elbows and wrists, were principally affected. A few cases showed involvement of the clavicle and scapula. The author stated that only three cases had been reported in the United States, in addition to the cases reported by him. He thought that some of the head pains in small-pox were due to this disease. The pathology shows in from three to fifteen years following the small-pox.

The paper was discussed by Drs. Clayton, Harris, Taylor and Shannon, and Dr. Brown was extended a hearty vote of thanks for his paper.

Dr. W. H. McKnight was elected to membership.

The society directed the secretary to request the American Hygiene Society to use Fort Worth as one of its demonstration centers, in view of the fact that the infant mortality in Fort Worth for the previous year had been seventy-three per thousand.

Van Zandt County Medical Society met at Canton, April 6, with eight members and one visitor present.

A number of interesting clinical cases were reported and discussed, after which the following papers were read: "Endocrinology," Dr. V. Bacom Cozby, Grand Saline; "Endocrinology as It Relates to the Female Pelvis," Dr. Willard C. Hearin, Canton. Both papers were freely discussed.

The Panhandle District Medical Society met in Amarillo, March 20-21, with a large and very much interested attendance. Following the opening exercises, which included an invocation by the Reverend R. N. McCallum, and the President's Annual Address, by Dr. W. Wilson of Memphis, the following scientific program was rendered:

Chairman's Address, Section on Medicine, "Medicine, the Old and the New," Dr. J. M. Ballew, Memphis; "Calomel," Dr. A. E. Winsett, Amarillo; "Public Health Problems in a Small Town," Dr. R. Wolford, Childress; "The Responsibility of the General Practitioner in the Control of Tuberculosis," Dr. H. H. Latson, Amarillo; "Pneumonia," Dr. A. H. Lindsay, Amarillo; Chairman's Address, Section on Gynecology and Obstetrics, Dr. A. H. Lindsay, Amarillo; "Report of a Fatal Case of Obstetrics," Dr. C. L. McClellan, Clovis, N. M.; "Anomalous Menstruation," Dr. B. L. Jenkins, Clarendon; "Some Pelvic Symptoms As Result of Floating Kidney," Dr. W. N. Wardlaw, Childress; "Urinalysis," Dr. H. L. Wilder, Clarendon; Chairman's Address, Section on Surgery, Dr. W. H. Flamm, Amarillo; "Peptic Ulcer," Dr. T. D. Frizzell, Quanah; "Interpretation of Abdominal Pain," Dr. Bacon Saunders, Fort Worth; "A Report of Surgical Cases," Dr. E. O. Nichols, Plainview; "Roentgen Differentiation of the Benign and Malignant Bone Tumors, with Original Plates," Dr. J. B. Johnson, Temple; "Review and Report of Cases of Fourteen Years' Experience in Removing Foreign Bodies With the Bronchoscope and Oesophagoscope from the Lungs and Oesophagus," Dr. Martin E. Taber, Dallas.

The following officers were elected: President, Dr. J. R. Wrather, Amarillo; 1st Vice-president, Dr. R. B. Wolford, Childress; 2nd Vice-president, Dr. W. L. Baugh, Lubbock; Censor, Dr. B. M. Puckett, Amarillo; Legislative Committee, Dr. W. Wilson, Memphis; Secretary, Dr. J. J. Crume (re-elected), Amarillo.

Section on Medicine, Dr. R. B. Wolford, Childress, chairman; Dr. C. C. Gidney, Plainview, (re-elected), secretary.

Section on Gynecology and Obstetrics, Dr. B. L. Jenkins, Clarendon, chairman; Dr. R. R. McDaniel, Quanah, (re-elected), secretary.

Section on Surgery, Dr. A. F. Lumpkin, Amarillo, chairman; Dr. W. N. Wardlaw, Childress, (re-elected), secretary.

The Ladies' Auxiliary held its annual meeting and banquet during the meeting of the district society.

On Tuesday, the 20th, visitors were entertained at a banquet at the Amarillo Hotel, at 6:45 p. m., and a theater party at 8:45 p. m. On Wednesday, the 21st, at noon, a luncheon was served visiting doctors and the ladies' auxiliary.

This meeting was easily the most enthusiastic and apparently the most enjoyable held by the society during late years.

The next meeting will be held in Canadian, the third Tuesday and Wednesday in September.

Section Officers, North Texas Medical Association.—President Dr. M. M. Morrison has appointed the following section officers for the next meeting of the Association:

Gynecology and Obstetrics, Dr. C. A. Gray, Bonham, chairman; Dr. O. R. O'Neill, Paris, secretary.

Medicine and Pediatrics, Dr. L. H. Reeves, Fort Worth, chairman; Dr. E. L. Burton, McKinney, secretary.

Surgery, Dr. L. C. Ellis, Dallas, chairman; Dr. Joe Wolfe, Sherman, secretary.

Those desiring to read papers at the next meeting will communicate with the chairman or the secretary of the appropriate section.

The Northeast Texas Medical Society Reorganized.—This at one time very energetic and enterprising organization, but of late more or less dormant, was revived at Mount Pleasant, April 10, with a registration of 45.

The meeting was opened by addresses from the Mayor of Mount Pleasant, a representative of the Chamber of Commerce, and the President, Dr. R. H. T. Mann, of Texarkana.

The scientific program was short, because of the failure of several essayists to arrive, but five papers were read and extensively discussed.

The society went on record as opposing any legislation providing for a chiropractic examining board, or in any way making exceptions or establishing lower standards for chiropractors or any other cult, and the secretary was directed to mail copies of the resolutions to Senators and Representatives from the counties included in the district.

Luncheon was served by the Titus County Medical Society, which was prepared by the ladies.

The next meeting will be held in Longview, the second Tuesday in October.

CHANGES OF ADDRESS.

Dr. Chas. F. Williams, from Merkel to Abilene.
Dr. G. M. Duckworth, from Cuero to San Antonio.
Dr. J. T. Holland, from Itasca to Three Rivers.
Dr. O. B. Manes, from Coleman to El Paso.
Dr. I. N. Campbell, from Alice to Kingsville.
Dr. John Hunter, from McAllen to La Feria.
Dr. J. E. Root, Jr., from Temple to U. S. Navy Hospital, Norfolk, Va.

DEATHS

Dr. C. T. Kennedy of Greenville, died March 12, 1923, at the John Sealy Hospital, Galveston, following a long illness.

Dr. Kennedy was born at Corinth, Mississippi, November 4, 1868, and removed to Texas with his parents while in his infancy.

When a young man he taught in the public schools of this State, later attending the Georgetown University at Washington, D. C., from which institution he received his degree in Medicine, in 1892. He was

DR. C. T. KENNEDY.

married to Miss Ann Boggess of Kaufman, in 1894. He was a member of the Methodist church, and a Knight's Templar. He had been a member of the Hunt County Medical Society for many years, and was a Fellow of the American Medical Association. During the funeral services, tributes were paid his memory by Drs. Joe Becton and D. R. Waddle, of Greenville. He is survived by his wife, one son, Dr. Charles Thomas Kennedy, Jr., of Columbia University, New York City, and Miss Lillian Provine, an adopted niece.

Dr. T. M. Fleming of Mount Pleasant, died from apoplexy, April 4, 1923. Dr. Fleming was born in Titus County, Texas, March 23, 1868. He became a member of the Methodist church when but a child and had since lived a consistent Christian life. The beautiful new Methodist church of Mount Pleasant stands as a crowning result of his public spirited efforts.

At the age of 18, Dr. Fleming taught in the pub-

lic schools, and at twenty-two years of age he graduated in Medicine from the Tulane University, New Orleans. At the time of his death he was president of the State National Bank at Mount Pleasant, president of the Rotary Club and a member of the Boy Scout Council. He had been a member of the Titus County Medical Society for many years, being its president at the time of his death. He was a substantial, liberal citizen and a good doctor.

Dr. Fleming will be missed. His church needs him—his uncompromising Christianity was an inspiration to his brethren. His community needs him—his public-spirited activities were helpfully encouraging. His medical society needs him—his ready response to its calls for service spurred others to renewed effort. The crowds, the flowers and the words spoken at his grave, were a fitting tribute to his memory.

Dr. Walter Graham Kimbrough of Denton, died of dengue fever, October 19, 1922.

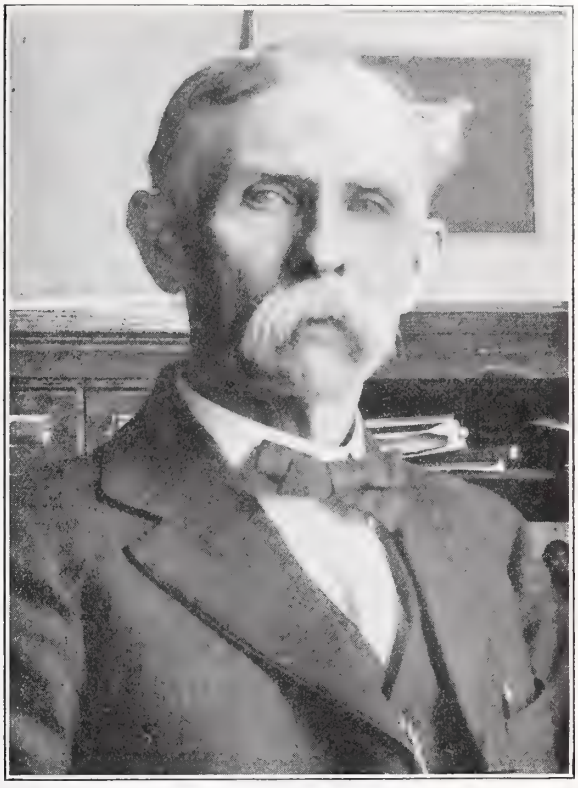
Dr. Kimbrough was born in Stevenson, Alabama, in 1870. He received his early education at the William and Emma Austin High School at Stevenson, Alabama. He finished his literary education at the Winchester Normal, Winchester, Tennessee, following which he came to Texas and read medicine for one year with his uncle, Dr. J. C. McMahan of Richardson, Texas. He graduated in medicine from the

DR. WALTER GRAHAM KIMBROUGH.

Vanderbilt University, Nashville, Tennessee, in 1891, at the age of twenty-one years, and began practice at Krum, Texas. He remained at Krum until 1912, when he removed to Denton, where he became associated in practice with his brother, Dr. W. C. Kimbrough, with whom he was practicing at the time of his death. In 1899, Dr. Kimbrough was married to Miss Zilpha Eads of Denton. His wife, father, (G. H. Kimbrough), two brothers, Dr. W. C. Kimbrough, and Chas. H. Kimbrough, Ph. D., and one sister survive him.

Dr. Kimbrough had been a member of the Denton County Medical Society since 1892, having served that organization for four years as secretary.

Dr. George Dixon Mahon, Sr., of Blocker, died March 8. Dr. Mahon was born at Mahon, Panola County, Texas, April 11, 1860. He attended the common schools of Jacksonville, Texas, and received the degree of Doctor of Medicine from the Tulane Medical College, New Orleans, in 1886. He began the practice of medicine in Harrison County, near Mar-



DR. GEORGE DIXON MAHON, SR.

shall. He continued to practice there until 1916, when he removed to Marshall, at which place he has practiced since that time. He was married to Miss Linnie Scott in 1888. His wife and one son, Dr. George Dixon Mahon, Jr., Dallas, survive him.

Dr. Mahon had for many years been an active member of the Harrison County Medical Society. He will be greatly missed by the members of his organization, as well as by those whom he had so long and so efficiently and faithfully served.

BOOK NOTES

The writer does the most who gives his reader the most knowledge and takes from him the least time.—*Sydney Smith.*

A History of Magic and Experimental Science During the First Thirteen Centuries of Our Era. By Lynn Thorndyke, Ph. D., Professor of History in Western Reserve University, author of "The History of Medieval Europe." In two volumes, 8vo pages, Volume I, 835, and Volume II, 1036. Cloth bound. The MacMillan Company, Publishers, New York, 1923.

No work of recent publication which has come to our table, is of greater interest to the curious, or more helpful to the eager student of the history of science or religion—all science and all religions, the courses of which have been litered with the mistakes of empiricism in the search for accurate knowledge. Often is to be seen the ludicrous display of "defenders of God!" against the advance of science, meting out the severest punishment to the discoverer of each new truth, whether it be of nature or religion, as in the case of Paul and Silas, or of Stephen of the New Testament, or of Aaron Bledsoe being tried in a Virginia criminal court for "Preaching the Gospel of the Son of God in the Colony of Virginia!"

Again, we see the marvelous zeal which the mistaken usually display in the propagation of the rankest errors as in the works of Moses Maimonides, who yet reconciled Aristotle and the Bible. Philosophy and written Revelation to the Jewish thought of his day, thus winning the approval of Albert and Aquinas, who undertook to achieve the same thing for Christianity but failed. He held that "the stars were living, animated beings," saying that "all philosophers agree that this inferior world of generation and corruption is ruled by the virtues and influences of the celestial spheres."

In this work "Magic and Science in the late classical, early Christian, and Medieval periods, are made the subject of detailed historical investigation. In the term 'magic' Professor Thorndyke includes the arts of divination and various occult sciences, as well as the magic arts in the more restricted sense. New light is given on the origins of experimental science, its historical relations with magic and religion, and its status in the middle ages, on the history of medicine, and the biography and bibliography of medieval scientists." The unusually comprehensive treatment of the subject is largely due to access of the author to a large number of manuscripts not before used by modern writer or student.

Volume I is divided into five books, and they into many subdivisions, treating of "The Roman Empire"; "Early Christian Thought"; "The Early Middle Ages"; "The Twelfth Century"; "The Thirteenth Century." Volume II is devoted to a complimentary study of the Twelfth and Thirteenths Centuries.

In addition to copious indexes, one to each volume, there are marginal indexes showing the subjects of paragraphs. There are also exhaustive bibliographic indexes in each volume, followed by indexes to all manuscripts used by the author. The work is exceedingly well written. The author has the right to claim the attention of the reader. He is an author and teacher of high achievements. The book will fill a seriously valuable place in the curricula of medical colleges, where the history and ethics of medicine have been all too long neglected.

The book will also be of value in clearing the barnacles from the keel of "the old Ship of Zion," as well as vessels upon the scientific seas of investigation and rational speculation. It serves a good purpose in aiding in the distinctions between revealed religion and natural science. It shows the "fundamentalist" that he errs in posing as "defender of the faith" against imaginary attacks of men who know what are natural truths but do not meddle with spiritual matters. The laws of gravitation, growth, development or evolution, are laws in spite of the ignorant and bigoted stickler for effete dogmas and blasted creeds. The Decalogue of Moses, the Lord's Prayer and the Creed of the Apostles, are impregnable and need no defense. Generation, reproduction, growth, matter, form motility, cohesion, gravitation, rest, accretion, decomposition, etc., are natural phenomena of well-established knowledge, which have rewarded millenniums of earnest study of matter, its form, functions and changes, of which theology has taught us nothing, and with which it is not concerned.

Diseases of the Skin. By Richard L. Sutton, M. D., Professor of Diseases of the Skin, University of Kansas; former chairman of the Dermatological Section of the American Medical Association; Assistant Surgeon, United States Navy, Retired; Dermatologist to the Christian church Hospital. Cloth, 8vo pages 1132, with 969 illustrations, and 11 Colored Plates. Fourth Edition, Revised and Enlarged. St. Louis, C. V. Mosby Company, $9.50.

This work, in its former editions, has received favorable notice in these columns, and it is only needful that we say of this edition that its author has not failed to keep it up to its well established standard of reliability and value. The advances of dermatology along many lines has received due and ample attention in this new edition, and some important changes have been made in its makeup to the advantage of the student and practician. The studies of Ormsby and Mitchell, Charles J. White, Wende and Wilkinson, and others, have been considered, and attention is called to the field of their work "on epidemophyton infection and its etiologic relationship to certain chronic infammatory disorders of the skin much neglected in this country."

Symptoms in the Diagnosis of Disease. By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics and Diagnosis in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; One time Clinical Professor of Diseases of Children in the University of Pennsylvania, etc., etc., 8vo pages 562, cloth binding. Eighth Edition, thoroughly revised. Illustrated with 195 engravings and 9 Plates. Dea & Febiger, Philadelphia and New York. $6.00.

A time there was when the author of this book would have been accepted in this country as the dernier resort in almost all matters of diagnosis. The doctors of the South believed him to be the surest-footed and levelest-headed guide along the devious paths of clinical diagnosis in America. Then came a time when commercial interests deemed by many incompatible with the sanitary, medical and moral as well as the commercial interests of the land they love, intervened. After the Professor from Jefferson Medical College had exercised the right of free speech, lesser fry entered the forum as champions of a lost cause, even embracing the common cause of the liquor traffic and the patent medicine fakers, under the disguise of American medical liberty. Then came one who discovered that a mighty beast in the form of a candidate for the presidency, supported by a great leviathan, the American Medical Association, was whetting his fangs and enlarging his appetite to devour the rights of the distillers and nostrum vendors. Thus fell the curses and reproaches of the two patronizing crafts upon the profession from whose ranks their whilom champions had been drawn. And the men of the South all but ceased to pause for adoration. This text charges alcohol with, producing "coma," "convulsions," "epilepsy," "hyperesthesia," "morning vomiting," "tremor," "poisoning," etc.

The text is divided into twenty-one chapters, written in the facile style of the noted author. The author deplores, justly, the tendency of the brilliant results of laboratory investigation to divert the attention of the attending physician from the careful study of the patient, and insists that symptoms be scrupulously followed, grouping them, and giving to each its true value, having recourse to the laboratory subsequently.

The book is excellent, and worth the money.

ARTHUR CARROLL SCOTT, M. D., F. A. C. S.,

TEMPLE, TEXAS.

Fifty-Sixth President, State Medical Association of Texas.

Texas State Journal of Medicine

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DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH OF TEXAS

Dr. Arthur Carroll Scott, the fifty-sixth President of the State Medical Association of Texas, was born on a small farm bordering on Pecan Creek just outside of Gainesville, Texas, July 12, 1865. He came of old Tennessee stock. His father, Rufus Franklin Scott, and his mother, Martha Helen Moran, were born and reared in that State, as were their parents before them. The family moved to Texas in 1858.

The early life of Dr. Scott was that of the usual country boy of his day, including the prosaic and more frequently than otherwise exacting work in the fields and about the house. He received the usual country school education, but including a high school course in the town of Gainesville. He was taught music and art, but displayed neither talent nor interest in those subjects. At the age of 17 he became interested in medicine, and took up its study in the office of Dr. A. H. Conson, leaving high school for that purpose. He entered Bellevue Medical College, New York, from which institution he received his degree in 1886. Immediately upon graduation he entered a competitive examination and received an internship in Western Pennsylvania Hospital, at Pittsburgh, at that time one of the largest surgical hospitals in Pennsylvania. During this internship he served under the direct supervision of Drs. McCann, Le Moyne, Murdock and King, the leading surgeons of the city at that time. This service covered a period of two years, following which Dr. Scott returned to Gainesville for a rest. Two months later, *en route* to Dallas in search of a location, he attended his first medical society meeting, that of the North Texas District Medical Association, which was held at McKinney. It is said that his boyish appearance at this time, coupled with his awkward and evident embarrassment, won friends for him who were a source of inspiration and help to him in after life.

Dallas appearing to be amply provided with physicians, Dr. Scott returned to Gainesville and entered the practice of medicine there, where he remained for four years. He was appointed local surgeon for the Santa Fe Railroad about that time, and six months afterwards was made Chief Surgeon and required to move to Temple, where the hospital was located. That was in 1892, at which time the Santa Fe lines ran from Galveston to Purcell, Oklahoma, and to San Angelo and Paris. It is anticipating the story but little to say here that the small frame hospital of that time has developed into a handsome, fireproof building, with a capacity of 125 patients, and now serves a road 2,000 miles long. Two years after his removal to Temple, Dr. Scott appointed Dr. R. R. White, afterwards so well known and always in connection with Dr. Scott, as house surgeon for the railway hospital. Three years later Dr. White joined Dr. Scott in the practice of medicine and surgery, and a year later they established the Kings Daughters Hospital, which they managed through a board of directors for a period of six years. They withdrew from this institution for the purpose of establishing their own hospital, to which they gave the name "The Temple Sanitarium." This institution has been developed

by easy and sometimes rapid strides, from a capacity of sixteen patients and four nurses to an institution comprising a three-story brick building nearly a block in length, and fourteen other buildings scattered over five blocks of ground. The last building, recently completed, includes the Woodson Eye, Ear, Nose and Throat Hospital, just about to be opened for service. The whole institution now has a capacity of 125 patients and seventy-five nurses and a staff of twenty-two physicians and surgeons. The Temple Sanitarium was one of the first in the State to be accepted as a standard hospital by the American College of Surgeons.

Dr. Scott joined the State Medical Association in 1893, and has been prominently concerned in its counsels since that year. He served as Councilor for nine consecutive years, a part of the time as secretary of the Board. He was at one time president of the Central Texas District Medical Society. He was the first president of the Texas Association of Railway Surgeons, is a member of the Southern Surgical Association, the American Association of Railway Surgeons, a member of the Board of Governors of the American College of Surgeons, and a Fellow of the American Medical Association.

Dr. Scott has been an extensive and original contributor to medical literature. In 1893 he read a paper before the State Medical Association on "Compound Depressed Fractures of the Skull," reporting seven cases. He was an early writer on the subject of subcutaneous injections of normal salt solution in combatting shock in desperate surgical risks. To early literature on appendicitis he contributed a paper on the technique of the operation, reporting 279 consecutive operations with recovery. A detailed report of a successful intestinal resection, in which seven perforations were closed and thirteen inches of the gut excised, was one of the earliest of the kind in the State. Shortly following the publication of this report, Dr. Scott designed an instrument to invert and securely hold the cut edges of the intestine, for the purpose of facilitating suture, and another instrument for the purpose of promoting rapid and active introduction of sutures in lateral anastomosis. A third instrument was devised about this time, intended to permit the cut ends of a gut to be united by inversion and tying, within the instrument, using a single ligature.

One of his most valuable contributions to surgery was the special position devised by him, for the simultaneous performance of an abdominal operation and an operation upon the pelvic outlet. In difficult hysterectomies, by this method one surgeon supplements the work of the other, and in a large proportion of gynecological cases patients are saved approximately half of the time usually spent in the operations. In this position, the patient's hips are placed over the edge of a table, as if for lithotomy, but with the thighs widely abducted and partially flexed, which position is maintained by a special attachment for the operating table. Another paper reported 500 cases of radical operations for inguinal hernia, and another early directed attention to the practicability and usefulness of local anesthesia in major surgical operations, in which an efficient method of anesthetizing the parietal peritoneum was described. The successful removal of half the stomach of a man 78 years of age, because of cancer, was reported by him some years ago. The subject of estimating resistance to surgical operations, received Dr. Scott's early attention, and he published a paper which recorded the various methods of doing this and charting the depressing factors following anesthesia, hemorrhage, peritoneal traction, and other causes of fatalities following operative procedures.

Probably the most valuable contribution made by Dr. Scott to surgery, is the development of the technique of the electric cautery for the cure of cancer, carbuncles and a wide range of local skin lesions, such as lupus, anthrax, etc. His first paper on this subject was entitled, "Sterilization of Cancer by Excision with the Actual Cautery," which was read before the surgical section of the State Medical Association in Amarillo, in 1911. Criticism of this method was so severe at that time that he refused to permit the publication of his paper. He continued his efforts, however, and discovered that his tech-

nique was most successful, indeed, applied to carbuncles and other localized skin infections, and was far preferable to the knife in such cases. Six of the first seven cancer cases upon which he used the cautery, remained in good health (and are in good health today, twelve years later), and in 1918 he presented another paper to the State Medical Association, at Houston, reporting 400 cases operated upon in this manner. He was first to discover that skin incisions and extensive flaps may be made with the cautery at white heat, without charring the tissues, and that wounds so made might be stitched with every expectation of primary union, as if the knife had been used; also, he perhaps has priority in making block dissections for metastatic cancer, including the carotid sheath, with cherry red cautery without injury to the deep jugular vein and carotid arteries. His last article on the subject was published in *Surgical Clinics,* October, 1922.

Dr. Scott was married to Miss Maude Sherwood of Gainesville, in 1899. Three children have been born to them, all of whom are alive. Dr. A. C. Scott, Jr., the eldest child, is at the present time connected with the Scott and White Hospital at Temple. He is a graduate of the Academic Department of the University of Texas and of Harvard University, Medical Department, having received his medical degree in 1918. He served an internship in the Massachusetts General Hospital, following his graduation, and later served one year in the Mayo Clinic. Mrs. Preston Childers (Lucille), lives on a ranch in South Texas, and Mrs. Walker Saulsbury (Helen), lives in Temple. There are two grandchildren, Gloria Scott and Gwendolyn Childers.

Dr. Scott is a member of the Presbyterian Church and has been an elder in that institution for many years. He has, also for many years, been a director of the Y. M. C. A. at Temple, and is a director of the State Y. M. C. A. He has all of his life been an untiring and consistent advocate of prohibition. He is a Mason.

Considering his professional attainments and personal qualifications, and in view of his long and unselfish devotion to the cause for which the organized medical profession stands, there can be no doubt as to the success of the administration covered by Dr. Scott's term of office. He is merely taking his turn in the forefront, and will carry the work on from where he has helped his predecessors to bring it. He is assured of the sympathy and aid of those with whom he has worked for these many years. He is accustomed to sizable affairs. He will have the appreciation and support of his fellows of the medical profession.

The Fort Worth Meeting proved to be one of the most satisfying of all of the satisfactory meetings of late years. The attendance was next to the largest in the history of the Association. The registration was 1,123, as against 1,204 at Dallas, in 1917. These figures relate only to members. Taking into consideration the visitors, including the families of members, quite probably the Fort Worth meeting ranks first in point of attendance. There were 400 badges ordered for visitors, and these nearly all disappeared on the first day. The notable feature of this meeting, let us say in passing, was the prevailing good humor and cordiality of those in attendance, individually and collectively. This condition was remarked upon frequently by the old-timers, who predicted, for that reason a most enjoyable and profitable meeting.

All meetings, with the exception of those of the House of Delegates and the Memorial Exercises, were accommodated in the Texas Hotel, where the place of registration, the commercial exhibits and the scientific exhibits were also housed. The House of Delegates met in the University Club, a half block away, and the Memorial Exercises were held in the First Methodist Church, three blocks distant. In order to accommodate the Association in this manner, the arrangements committee found it necessary to crowd the sections just a bit, but if there was any complaint on that score we have not heard of it. The separation of the House of Delegates from the scientific sections is, after all, not a bad plan. The temptation to a delegate to slip in to a scientific section for a few minutes, about the time the House of Delegates is due to meet, is great.

The general sessions were well attended and most interesting. They were all held in the large ball room of the hotel, which proved to be amply commodious and entirely fit for the purpose. The address of Lieutenant-Governor Davidson, which will be found in the Original Articles section of this number of the JOURNAL, was received with great enthusiasm. He spoke on a subject at the present time engaging our attention most intensely, and his position on the controversial features thereof was quite satisfactory. The President, departing from custom, withheld his address until Wednesday night, when it was delivered to the assembled members and their guests, at the Majestic Theater. Whether or not this plan is superior to that heretofore followed, it appeared that the President's Address was put over in better shape than is usually the case. It will be found in this number of the JOURNAL, and it is well worth reading. Dr. Oscar Dowling, chairman of the Board of Trustees of the American Medical Association, and well known to most of our members, discussed before one of the general sessions the work of the American Medical Association. Few of our members appreciate the scope and character of the work of our great national organization. The address was accompanied by lantern slide illustrations. The address of Dr. Thorning, delivered at a general session and bearing upon the relationship of the medical profession to the public, is a keen analysis of the situation now confronting us in this respect. It will be found elsewhere in this number of the JOURNAL, and should be read. Addresses delivered by Dr. W. B. Russ of San Antonio, Dr. A. C. Scott of Temple, and Dr. T. J. Crowe of Dallas, Secretary of the State Board of Medical Examiners, all related to the same serious situation. They are published in the body of the Transactions. Together they constitute a splendid symposium.

The Memorial Exercises, under the chairmanship of Dr. Thomas Dorbandt of San Antonio, proved to be one of the most pleasing ceremonies of that character held in a long time. The large Methodist Church was comfortably filled, the program was good, and at no point were the services permitted to drag. One of the reassuring developments in our organization lately has been the increasing respect paid to our dead through these exercises.

The scientific work of the meeting was evidently of an unusually high order. All of the criticisms heard were kindly and appreciative. The sections appeared to assemble on time and adjourn at the proper time, and were busy all the while. For the first time in the history of the Association court stenographers were employed to report the discussions before the scientific sections. This proved to be a costly expedient, and it remains to be seen whether it will be repeated. It is said that the knowledge that the discussions were being taken in this manner had good effect. Speakers were more careful as to what they said and how they said it. The stenographic reports of the discussions, incidentally, will be submitted to the speakers for their approval and for such corrections as they care to make, before publication.

The meetings held on Monday preceding the opening of the session proper, were well attended, and it is said that the programs of these organizations were unusually interesting. As a matter of fact, the registration office was as badly crowded on Monday as it was on Tuesday. Visitors who had not before been with us commented on this fact. They figured that the interest of its members in the Association must be great, indeed, when they come a day early and stay a day late.

The Fort Worth Medical and Surgical Clinics were held on Monday, for the benefit of those members who cared to attend the meeting a day early. Each hospital in the city had a special program of operations and examinations during the morning hours, and there were cars for the accommodation of visitors. At noon a delightful luncheon was served by the Woman's Auxiliary of the Tarrant County Medical Society, in the Society rooms, and in the afternoon lectures and clinics were conducted in the Society rooms, principally by Dr. Clifford Wright of Los Angeles, and Drs. Edward Clay Mitchell and Wm. T. Black of Memphis, Tennessee. Dr. Wright discussed the various phases of endocrinology, as developed in a series of cases presented by the local profession. Dr. Mitchell gave an interesting presentation of the subject of congenital hypertrophic stenosis of the pylorus, and Dr. Black discussed the various operations now in vogue for the correction of retro-displacements of the uterus.

The following honored guests were in attendance: Lieutenant-Governor T. W. Davidson of Marshall; Dr. Oscar Dowling, Chairman of the Board of Trustees of the American Medical Association and President of the Louisiana State Board of Health, New Orleans; Dr. S. C. Barrow, Fraternal Delegate from Louisiana, Shreveport; Dr. W. O. Talbot, Fraternal Delegate from the State Dental Society, Fort Worth; Dr. C. L. McClellan, Fraternal Delegate from New Mexico, Clovis; Dr. Wm. H. Bailey, Fraternal Delegate from Oklahoma, Oklahoma City; Drs. Frank Schoonover and A. U. Desjardins, Mayo Clin-

ic, Rochester, Minn.; Drs. Wm. T. Black and Edward Clay Mitchell, Memphis, Tenn.; Dr. Benjamin H. Orndorff, Chicago; Dr. D. N. Silverman, New Orleans; Dr. Fred W. Phifer, Wheatland, Wyoming; Dr. Daniel W. White, Tulsa, Okla.

The social features of the meeting were unusually attractive. The Woman's Auxiliary of the Tarrant County Medical Society had entire charge of the entertainment of the visiting ladies, and functioned extensively in the entertainment of all visitors. Visitors were met at trains, and from the time of their arrival until adjournment every effort was made to make everybody feel at home. The usual teas and musicales and rides were provided. The President's Reception was quite unusual. This function began at the Majestic Theater, at 7:00 p. m., with the regular Majestic vaudeville program. In the midst of this program the President delivered his address. The reception proper took place in the Blue Bonnet Room of the Texas Hotel, just a block from the theater. Refreshments and dancing concluded the entertainment of the evening (and part of the next morning). Admission to the theater was by means of the regular theater tickets, the tickets being distributed during the day, on a first-come first-served basis.

The pulpits of the city were filled Sunday preceding the meeting by public health lecturers. Addresses were delivered by the following: Drs. C. M. Rosser, Dallas; Homer T. Wilson, San Antonio; John O. McReynolds, Dallas; Joe Dildy, Brownwood; B. L. Jenkins, Clarendon; H. W. Cummings, Hearne; M. F. Bledsoe, Port Arthur; W. B. Russ, San Antonio; A. C. Scott, Temple; I. L. McGlasson, San Antonio; T. D. Frizzell, Quanah; Joe Becton, Greenville.

The Secretary-Editor was very graciously honored during the meeting. Enterprising friends by subscription purchased for him a most beautiful watch, chain and charm. The presentation speech was made by the President, just prior to the delivery of the President's Annual Address. The affair was by nature of a surprise party, and for once it may be said that the "surprise" feature was not missing. Those who know the Secretary-Editor best will appreciate that fact when they read his brief remarks (in the Transactions). For once he was found to have little to say. It has been charged that he was speechless because the sum of $112, over and above the cost of the watch, was presented to Mrs. Secretary-Editor. Very naturally, the allegation is denied; but his friends will excuse him for wondering why they thought he could not use the $112. But seriously, and in all sincerity, the Secretary-Editor feels and fully appreciates the additional obligation incurred as a result of this gracious act.

Amendments to By-Laws.—Several important changes were made in the Constitution and By-Laws. These will be found verbatim in the Transactions. The President, in his message to the House of Delegates, discussed certain discrepancies in the present Constitution and By-Laws and insisted that there should be a wholesale revision at the earliest practicable moment. He recommended a strong committee for that purpose. Other committees and officers took the same position, and the reference committee, in addition to approving several immediately desirable changes, recommended that the President appoint a committee for that purpose, with himself as a member. The President, following his clearly established policy of conferring with the incoming President on all matters which would pertain to his administration, with Dr. Scott decided upon the following committee, and the selections were approved by the House of Delegates: Dr. A. C. Scott, Temple, Chairman; Dr. Holman Taylor, Fort Worth, Secretary; Drs. John T. Moore, Houston; M. F. Bledsoe, Port Arthur; F. P. Miller, El Paso; W. B. Russ, San Antonio; Winfred Wilson, Memphis, and Joe Becton, Greenville.

This appeals to us as being a strong committee. Certainly those appointed have had extensive experience in Association work and have given this particular matter some attention lately. The plan is to rewrite the Constitution and By-Laws, curing all discrepancies and providing for future expansion without the necessity of any considerable amendment. The by-laws only may be altered at the next annual session, but it is thought that most of them will have sufficient foundation in the present Constitution to enable the Association to function satisfactorily for another year, at the conclusion of which the new Constitution may likewise be adopted.

Transfer of Membership.—Section 6, Chapter XIV of the By-Laws, was so amended as to require a county society to accept into membership without question, a member of any county society in the State, upon presentation of transfer card in due form, and without additional expense for the current year. According to the wording of the amendment it is not obligatory to accept in the same manner members of county societies outside of the State, although it is provided that they shall be accepted without the payment of any fee except the per capita assessment which goes to the State Medical Association. This by-law is in keeping with the ruling of the

Board of Councilors, announced at this session. The previous law on the subject was somewhat ambiguous, and the Council was forced to make a ruling which might be subject to question under certain circumstances. It was held that inasmuch as there was no way to become a member of the State Medical Association, and a Fellow of the American Medical Association, except through the county society, there should be some way to insure to a member the continuation of his membership pending due trial for alleged indiscretions, moral or ethical, and this seemed to be the only practical way to do it. Before, when a member of one society was denied membership in another, he had the right to appeal to the Board of Councilors, and the Board of Councilors had the authority to permit him to join another county society, regardless of his residence. This plan has not always worked well. According to this by-law, on the face of it, it will be up to a county society either to accept an applicant into membership and then prefer charges against him if he is not deemed ethical, or prefer charges against him in the county from which he comes, pending consideration of his application for membership by transfer.

Papers for the Annual Session Program, according to an amendment to Section 4, Chapter X of the By-Laws, must be read *"in toto"* before a county society or district society in the instance the county society is for any reason not available, before it is eligible to be read before a scientific section of the State Association. The secretary of the county society before which the paper has or should have been read, is required to certify to the proper section officer that this law has been complied with. This requirement is in accordance with a demand more or less general. The recommendation was made by the Committee on Scientific Work and was approved by the Reference Committee. It has always been required that papers for the annual program be first read before county societies, but the matter of reading them by title and providing means for checking up on whether or not this had been done, had not been provided. There can be no doubt about it now. The contention was that these papers should receive the criticism of the county society, and presumably its approval, before being presented to the State Medical Association. It is expected that the author will profit by the discussions by his fellows at home. It was pointed out that many of the papers turned in at the annual session are written hurriedly and are not mature, either as to subject matter or composition—even mechanically. This is a matter of concern to the State Association, in that the time of the Editor, and his office force, all of which are paid for out of Association funds, is taken up in correcting these deficiencies.

The Council on Legislation and Public Instruction, by amendment to Section 7, Chapter IX of the By-Laws, has been enlarged as to personnel and function. It will hereafter consist of twelve members, five of whom shall give particular attention to legislative work and seven to the work of educating the public on medical and public health subjects. A large part of the time of the annual session, both in the House of Delegates and general sessions, was given over to the discussion of this important matter. The difficulties experienced in securing the adoption by the Legislature of corrective amendments to the Medical Practice Act, convincingly pointed to the need of informing the public of the necessity of standardized requirements for licensing practitioners of medicine, regardless of school or method of practice. In addition, it has become clearly evident that the State is ridiculously derelict in its public health work, including the care and treatment of our unfortunate insane. The new council is so organized that it can carry on the work without the lost motion heretofore so disturbing.

In this connection, it was realized that the funds at the command of the Association for this purpose in the regular order of things would be totally inadequate. It is contemplated that one or more whole-time employes will be necessary, and that it will be further necessary to pay the expenses of those called upon to deliver addresses in the interest of this movement. It was held to be extremely unfair to require these lecturers to contribute both their time and their money to this cause, no matter how worthy. That has been done, and lately, and the cost to the individual has been considerable. In view of this contingency, it was decided, on recommendation of the Board of Councilors, and others, that a fund be raised by volunteer subscription, on a basis of a minimum of $5.00 per capita, for this purpose. The newly created Council plans to first educate the medical profession on the whole subject, not only as to the necessity of the movement, but the points and principles needed to be carried to the lay public. It is planned to do this without further delay.

The new Council met recently, in Austin, and organized. The division into legislative and educational sections was not made, but the term of office was decided upon, as follows:

One-year term: Drs. C. M. Rosser, Dallas; I. C. Chase, Fort Worth, and H. W. Cummings, Hearne.

Two-year term: Drs. Joe Becton, Greenville; S. E. Thompson, Kerrville, and A. F. Beverly, Austin.

Three-year term: Drs. A. A. Ross, Lockhart; M. F. Bledsoe, Port Arthur, and W. B. Russ, San Antonio.

Ex-officio: President Dr. A. C. Scott and Secretary Dr. Holman Taylor of the State Medical Association, and Chairman Dr. W. B. Thorning, of the Board of Councilors.

An amendment reported by the Bexar County Medical Society, providing for the election of councilors upon nomination of their respective districts, and that no councilor shall serve more than one term consecutively, was referred to the Committee on Revision of Constitution and By-Laws.

The recommendation that a Council on Scientific Work be created, with an overlapping membership, on the order of the Council on Legislation and Public Instruction, or Medical Defense, and that this Council have complete charge of all scientific matters, including scientific exhibits, postgraduate courses, research work, arrangement and scope of the scientific program for the annual session, and the like. This recommendation met the approval of the reference committee and the House of Delegates, but in view of the fact that constitutional problems were involved, it was referred to the Committee on Revision of the Constitution and By-Laws.

The Committee on Scientific Work further recommended that the titles of scientific sections be simplified, which suggestion was likewise referred to the Committee on Revision. It was pointed out that the Section on State Medicine and Public Hygiene might well be designated, "Section on Public Health," the Section on Medicine and Diseases of Children might be called simply the "Section on Medicine," and the Section on Ophthalmology, Otology, Rhinology and Laryngology, be designated the "Section on Eye, Ear, Nose and Throat." The committee couldn't understand why diseases of children should be added to the Section on Medicine any more than diseases of any other prominent subdivision of the practice of medicine.

Other Business Transacted may be briefly summarized here. For full particulars our readers should turn to the Transactions. And just here let us urge the importance of reading the Transactions. As Chairman Dr. Bledsoe, of the Board of Councilors, said, this matter may be tiresome to many of our readers but to those of us who have long been in harness and who have borne against the yoke, it is extremely interesting reading. The point is, it is interesting if the reader is interested, and every member of the State Association should be interested. This is the business of the doctor, and it is the only opportunity he has to care for it.

State of Organization.—To begin with, the Board of Councilors and the Secretary tell us that from the standpoint of membership we are doing very nicely, although doubtless not as well as we should. The membership at the time of the Annual Session came within four of being as large as the largest membership at that time in the history of the Association. It seems that county societies for the most part have been giving attention to scientific medicine and the material side of its practice. Support of our legislative efforts have been fairly good. Dues reached the Secretary with satisfactory regularity and in time, but there was little or no improvement in the matter of accomplishing the formal annual report. As was pointed out by the Secretary, the annual report is an important instrument. It is the only means whereby he can keep a check on the membership. The blanks are designed to assist him in his work, but they will fail in their purpose to the extent that they are improperly filled out.

One new society, Red River, was chartered during the year and two societies, Jack and Young, were consolidated. Two societies, Marion and Throckmorton, lost their charters. They had been under suspension for insufficient membership for a year. Llano and Menard-Kimble County Societies were suspended because of an insufficient number of members. Bosque, Ector-Midland-Martin-Howard, Fisher-Stonewall, Jim Wells, and Wood County Societies were suspended because of failure to file annual reports. Doubtless most, if not all of these societies, will be reinstated during the year.

Financially, it may be said that we have prospered. The profits for the year were $5,118.27, which is somewhat less than that for last year. There have been many extraordinary expenses, such as for legislation and public instruction. The JOURNAL has been increased somewhat in size and in cost of makeup. The advertising business has been good, but it has not increased in proportion to the cost of publication of the JOURNAL. As was pointed out by the Board of Trustees, it would be an exceedingly simple matter to make the advertising business of the JOURNAL support a journal twice the size of that at the present time issued. It seems a shame that we do not do it. We are not sufficiently insistent that those with whom we deal in a business way conform more closely to the ethics of the medical profession and give better support to the institutions of the medical profession. It should be noted, particularly,

that the interest from the surplus funds of the Association contributed very largely to the profits of the year. In the Medical Defense Fund, the interest prevented an actual loss.

The Board of Trustees, responsive to the sentiment of our members, frequently expressed, materially increased the salary of the Secretary-Editor, and decided to employ an assistant for him. It is intended that this assistant care for the additional work incident to the increased activities of the Council on Legislation and Public Instruction and to the compilation of a medical history of the State, so long contemplated and now about to come to fruition.

According to the Treasurer, the Association had a balance of $38,130.42 in the bank at the time of his report which, added to the other assets of the Association, makes a total capital of $59,565.30 at the present time, less a portion of the cost of furnishing service for the forthcoming year. This is an unusually good showing, and constitutes an endorsement of the consistent financial policy of the Board of Trustees. No work of the Association has been neglected in the accumulation of this money. In the course of time it is contemplated that the funds of the Association will warrant the construction of a home of which the whole profession may be justly proud.

Medical Defense.—For the first time, the Council on Medical Defense appears to be somewhat perturbed. During the year three cases have gone to appeal, in two of which judgment had been rendered against the defendants. Never before has a verdict been rendered against a doctor defended by the Council. In one of these cases it seems that the jury rendered its verdict in the face of the evidence of seven or eight physicians of the highest type, which opens up a point of jeopardy not heretofore receiving a great deal of consideration at the hands of the Council or its attorneys, namely, the possibility of securing a jury inherently prejudiced. It is believed that these cases will all be won in the higher courts, which is the saving grace of the situation. There were 18 suits filed during the year, and some of the cases were exceptionally costly. As a matter of fact, the fund was quite depleted, and would have shown a loss if it had not been for the interest on its surplus. It will be noted, also, that a part of the expenses borne by the Council during the past year might have properly been charged to other funds, in that they were for legal advice furnished upon the request of the Council on Legislation and Public Instruction.

The selection of Mr. C. T. Freeman to succeed Judge Wolfe, the original and only General Attorney the Association ever had, was formally announced. Mr. Freeman was Judge Wolfe's associate, and in fact had been giving his special attention to medical defense for some time prior to the death of Judge Wolfe.

Postgraduate Instruction received the commendation of several of the officers and committees, formally and informally. Unquestionaly this comparatively new feature of Association activities is a success. Appreciation of the services of the faculties engaged in putting on this work, was manifest. Repeatedly the opinion was vouchsafed that no work of the Association is of greater importance this this.

The Contemplated Medical History of Texas received the emphatic approval of all agencies having to do with the subject, and the Trustees have set aside a fund for the immediate prosecution of this work, in addition to which it is contemplated the State Secretary will be given such assistance in his office as will enable him and his force to begin the shaping of the material thus secured. Dr. Paschal, chairman of the Committee on Collection and Preservation of Records, pointed out a fact which is probably not known or fully appreciated by the great bulk of our profession, or the lay public, as for that. The medical profession furnished one of the four Presidents of the Republic of Texas, a Governor of the State of Texas and an Ambassador to the Court of St. James. The part played by the medical profession in the development of Texas, will greatly surprise the reading public, once the subject is properly presented.

The Legislative Work of the Association is set out in full in the report of the Council on Legislation and Public Instruction. It should be read carefully and preserved most carefully. There will be found in detail the reaction of each member of the Thirty-eighth Legislature to all medical legislation, particularly that of a controversial nature. There may be mistakes in this record, but it is not likely that there are many, if any. The political pot will begin to boil again before long, and there will be those who will vociferously proclaim their friendship for the medical profession and its ideals. The legislative record should be referred to in all such cases. Honest mistakes should be condoned, but there are people fundamentally and basically opposed to our views and in favor of certain contrary views, and these should be held to task for sins of both omission and commission. The great idea is, to place in the legislative halls of our State men of intellect, probity and good, common sense.

That type will never pass laws designed to lay the people of our State open to medical fraud and quackery, and will be quick to see the fallacy of such arguments as those put forward by the chiropractors and christian scientists, for instance, in considering the amendments to the Medical Practice Act.

It will be noted that the Council recommended, and it has been authorized to confer with the State Board of Health and other agencies having to do with health problems, in an effort to revamp and rewrite public health laws of this State, and to take under consideration further the care and treatment of the insane, a problem which has engaged the active attention of the State Medical Association for lo, these many years.

Somewhat in this connection, the Board of Councilors called the attention of the profession to its woeful disregard of the vital statistics law. It was rightfully held that if the medical profession will not be true to this law it cannot be depended upon in other particulars. A drive will be made by the Board of Councilors to bring about a more wholesome state of affairs as regards the observance by the medical profession of all State laws.

Most of the discussion of the annual session bore upon public health problems, principally the matter of legislation and public education. Several notable addresses were delivered along these lines. They have already been mentioned. Resolutions were adopted favoring the reorganization of the State Board of Health, and other resolutions against the licensing of chiropractors and other substandard practitioners of medicine. Resolutions were also adopted endorsing the definition of State Medicine, adopted by the American Medical Association last year, and another condemning the training of ex-service men in chiropractic. These resolutions were modified somewhat by the word which came to the House of Delegates at the time they were about to be adopted, that the Veterans' Bureau had modified its rules on the subject considerably. It seems that the Veterans' Bureau will hereafter demand the same educational qualifications of those who would study chiropractic as would be exacted of those who would study medicine, and that veterans who would become chiropractors must pledge themselves not to practice or attempt to practice in States which have outlawed the chiropractor. While neither stand is satisfactory, the two together make the situation much more tolerable.

The Workmen's Compensation Act, according to the Committee on Compensation and Health Insurance, has been so amended as to provide two weeks instead of four weeks, hospital service, and to eliminate the third party liability. It is the opinion of the committee that the physician in attendance on a patient receiving compensation under this law may not be sued for malpractice in addition to the compensation already obtained.

Medical Education and Hospitals received more consideration in this session than at any time in late years. It seems that our hospitals are demanding interns, and that the medical colleges are refusing to require the intern year until the hospitals will provide for the proper instruction of interns, and for some way to permit continued supervision by the school. The improvement in hospitals, whether or not for this reason, has been continuous and appreciable. Especially is this true of the small hospitals, which had heretofore been subject to considerable criticism.

Dr. Keiller, our Delegate to the Association of American Medical Colleges, holds that the demands being so loudly made for clinical work in the early part of the medical course, are not justified, and that those having to do with medical education will appreciate this fact in a short while. Dr. Keiller has pronounced views on the teaching of anatomy, also, which will be dealt with more fully in a future number of the JOURNAL. It seems that some of the older institutions are departing from the straight and narrow path of instruction in anatomy, and there are those who believe that there is no other kind of path in anatomy.

The Committee on Medical Education calls attention to the nursing problem, which has assumed an acute stage over the entire country. It seems that the effort is to create super nurses, which leaves an aching void in the ranks, where most of the work must be done. The effort to compensate in this particular has taken a variety of forms, notably, the creation in Missouri of "Nurses Aides," who are educated only to the point necessary to wait on the sick, under the direction of the doctor.

An Official Route to California was adopted upon recommendation of the Committee on Transportation, by way of the Fort Worth & Denver from Fort Worth, and the Santa Fe lines from Amarillo to Los Angeles, the official party to break up there and continue its way according to the desires of its several members, either by boat, the coast lines or the Imperial Valley route. The usual summer rates will apply, and those who expect to make the trip should consult their ticket agents without delay. They should also communicate with Mr. D. E. Nelson, T. P. A., Fort Worth & Denver, Denver-Record Bldg., Fort Worth, in regard to reservations and the like. It will be noted that there are

numerous possibilities in the matter of return trip, which must be decided upon at the time of purchase of tickets. The principle adopted by the committee in the selection of this route was to do only the necessary sightseeing on the going trip, permitting the party to use its pleasure in that regard on the return trip. It is always a difficult matter to secure a concensus of opinion on scenic values.

The Cancer Committee embodies in its report some statistics that should attract the attention of the profession. The restrictions of this committee on the deplorable effect of sectarian practice on cancer victims should spur the profession to greater effort in the suppression of this menace. The committee points out that the cancer problem is a fifty-two-week problem, and suggests that county societies devote the programs of at least three meetings to this subject during each year. Sub-committees consisting of one member from each society to co-operate with the main committee, is suggested.

A New Ruling on Consultations was made by the Board of Councilors. It was held that principles of humanity will govern in the matter of consultation with sectarian practitioners who have stood the test of the State Board in Texas, but that under no stretch of ethics could consultation with illegal practitioners of medicine be warranted. This covers the question as to whether a physician is ever justified in consulting with a chiropractor, which question has seriously been raised on more than one occasion.

Dr. M. F. Bledsoe of Port Arthur, was elected President-Elect, and Drs. J. W. Torbett of Marlin, A. A. Ross of Lockhart and J. N. White of Texarkana, were elected Vice-Presidents. The list of the other officers elected will be found in the Transactions.

The Commercial Exhibits of the Fort Worth meeting, will be remembered as among the most enterprising and satisfactory in every way of any of late years. They were conveniently arranged in the expansive lobby of the Texas Hotel, and exhibitors had every opportunity to interview those in attendance on the sessions.

The commercial exhibits are not fostered altogether for the small return to the Association in money, or for the convenience of the exhibitors. Rather, they are intended as a convenience to attending physicians and a means of education in the development of instruments, pharmaceuticals, periodicals, and the like. Those who cater to the medical profession, always excluding the outlaw group, seem to partake of medical ethics, whether or not they have directly to do with it. It is a pleasure to deal with most of them. Very naturally, they are prejudiced in favor of their own respective products, but as a whole they are honest and honorable, and considerable information may be gained from them. No exhibit is permitted which does not come up to the most exacting ethical standards, and we can always commend our exhibitors to the favorable consideration of our members. Among those present were the following old and new friends:

E. H. McClure Company, surgical and dental instruments and supplies, Dallas, Texas. Represented by Messrs. O. Coffman and W. M. Steele.

A. P. Cary Company, surgical instruments, equipment and supplies, Dallas, Texas. Represented by Messrs. R. C. Lawson, H. W. Freeman and B. B. Hunter.

Frederic Johnson X-Ray Company, Dallas, electrical apparatus and supplies. Represented by Messrs. John T. Moore, C. W. Riggs, E. D. Prentice, Wm. H. Curran and Dr. Frederic Johnson.

Kelley-Koett Mfg. Company, *X*-ray equipment, Covington, Ky. Represented by Mr. R. P. Kincheloe, Electrical Engineer.

Cameron Surgical Specialty Company, Chicago, Ill.

The Quillian Company, surgical supplies, San Antonio. Represented by Mr. Bickel.

The Thompson Plaster X-ray Company, high-frequency treatment equipment, electro-medical supplies, Leesburg, Va. Represented by Mr. W. J. Deegan.

Hanovia Chemical and Mfg. Company, Newark, N. J. Represented by Mr. H. C. Baldwin.

Radium Chemical Company of Pittsburgh, Pittsburgh, Pa. Represented by Mr. G. F. Loftus.

E. R. Squibb & Sons, Manufacturing Chemists, New York. Represented by Messrs. T. J. Farr, K. B. Goldbach and O. P. Myers.

Victor X-Ray Corporation, *X*-ray apparatus and supplies, Dallas. Represented by Messrs. B. Doble, A. DeWeil, F. Hofert, A. Burke and A. King.

Dry Milk Company, New York, represented by Mr. E. Bauer.

A. S. Aloe Company, surgical instruments, physicians' supplies, hospital furniture and bacteriological apparatus, St. Louis, Mo. Represented by Mr. T. E. Lawlor.

Radium Company of Colorado, Denver, Colo. Represented by Mr. Lawrence Blades.

Terrell's Laboratories, *The North Texas Pasteur Institute*, rabies exhibit, Fort Worth, and *Terrell's Supply Company*, Fort Worth. Represented by Messrs. H. M. Bulbrook and Lewis Thomas.

J. A. Majors Company, medical and surgical books, New Orleans, and *W. B. Saunders Company*, medical and surgical books, Philadelphia, Pa. Represented by Messrs. George Henser and N. R. Shubert.

Horlick's Malted Milk Company, Racine, Wis. Represented by Mr. Angus Hunter.

C. V. Mosby Company, medical books, St. Louis, Mo. Represented by Mr. Wm. Appleyard.

Fort Worth Surgical Supply Company, surgeon's and hospital equipment, Fort Worth. Represented by Messrs. W. W. Clary, O. L. Thomas and H. E. Linn.

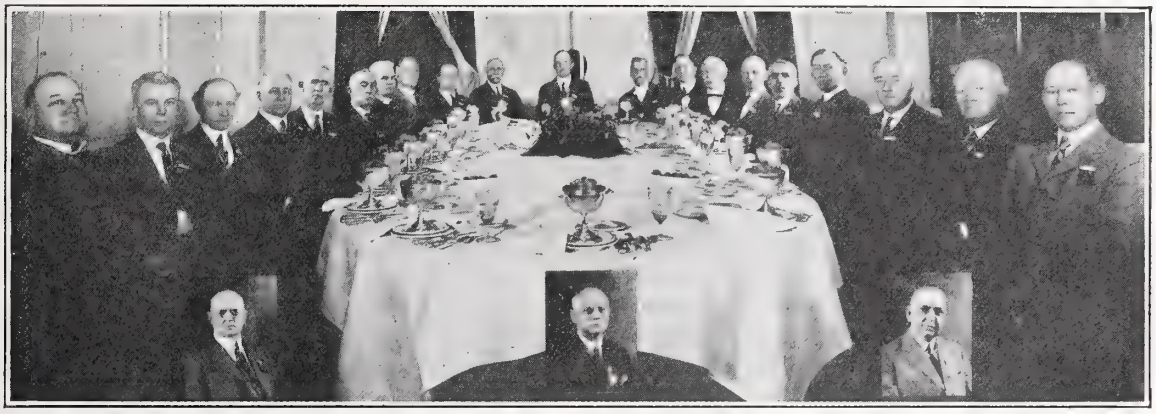
Merry Optical Company, wholesale opticians, Dallas. Represented by E. G. Hadley.

De Zeng Standard Company, eye, ear, nose and throat, diagnostic equipment, Camden, N. J. Represented by Mr. E. C. Piper.

F. A. Hardy & Company, manufacturing opticians, hospital and surgical supplies, Dallas. Represented by Messrs. H. C. Rees, John Wycke, W. A. Palmer and J. Hugh Campbell.

W. F. Prior Company, publishers of medical service, Hagerstown, Md. Represented by Mr. D. W. Stidworthy.

Our Ex-Presidents.—It may not be generally known, but our ex-presidents have banded themselves together in an organization called the Association of Ex-Presidents of the State Medical Association of Texas. The president of this organization automatically comes into office by virtue of his rank as to date of service, but the secretary is elected from time to time. Our recollection is that there has never been but one secretary, Dr. J. D. Osborn of Cleburne, and it is our opinion that there won't be any other secretary so long as he is able to serve in that capacity.



OUR EX-PRESIDENTS.

Each year the Ex-Presidents meet at luncheon on Wednesday of the Annual Session, and they generally are nearly all present. At Fort Worth there was one absentee, Dr. Taylor Hudson of Belton. All of the others, except one, were present at the luncheon, albeit two of them came in too late to get in the very good picture of the group we are presenting herewith. In this picture, reading from left to right, are: Drs. John S. Turner, Dallas (46th); Holman Taylor (honorary), Fort Worth; Joe Becton, Greenville (56th); A. C. Scott, Temple (57th); John T. Moore, Houston (44th); P. C. Coleman, Colorado (29th); G. B. Foscue, Waco (40th); Bacon Saunders, Fort Worth (31st); S. P. Rice, Marlin (52nd); Frank Paschal, San Antonio (37th); W. B. Russ, San Antonio (43rd); J. D. Osborn, Cleburne (25th); J. H. McCracken, Mineral Wells (45th); J. M. Inge, Denton (50th); H. W. Cummings, Hearne (42nd); S. C. Red, Houston (36th); Frank D. Boyd, Fort Worth (48th); J. E. Gilcreest, Ennis (39th); R. W. Knox, Houston (53rd); I. C. Chase, Fort Worth (54th). Bottom row: Drs. T. J. Bennett, Austin (55th); Marvin L. Graves, Galveston (47th); E. H. Cary, Dallas (51st).

There are many notable features connected with this organization. To begin with, they are in no sense of the word "has beens." The custom is to look upon Past Presidents as ornaments on the shelf of posterity. That most certainly is not true of this group. Most of them are intensely active in Association affairs, some of them in spite of the fact that they have attained that age which would fully warrant them in seeking the chimney corner. The oldest member served as chairman of a reference committee of the House of Delegates during this session, and he is on one of the most important committees of the State Association. We are not permitted to say much about ages, and for that reason we cannot be more specific. Dr. Osborn might not like for us to let it be known that he is the oldest living Ex-President. This same gentleman bears the distinction of having practiced medicine longer than any of the others, having been in harness now for fifty-five years. The combined ages of the ex-presidents (including the absentee), is 1,425 years, which makes a general average of 62 years. (It will be borne in mind that the honorary member does not figure in these statistics). The combined years of practice of the group is 864, which makes an average of 37½ years.

We are pleased to bring these, our honored elders, to the attention of our members, feeling that we are perhaps too prone to forget to render honor where honor is due. We perhaps feel that we have paid them off and discharged them, and that we owe them nothing further. The pertinent fact is that they, at least most of them, do not seem to feel that way about it, and so long as they are willing to labor in our cause and we accept their services, just that long will we be presently obligated to them, and there is no better way

we can pay the debt thus incurred than by appreciation expressed at every opportunity.

Preserve the June Journal.—You may need it some day. I contains a number of important items, items which you may want to refer to from time to time for the next year or two. Do you want to know whether Dr. John Doe of Bankersville, is a member of the Association? If so, look in the membership list and see. Do you want to know whether he attended the Annual Session at Fort Worth? If so, look in the membership list and you will find out. Would you like to know what amendments were adopted at the last Annual Session, or what action was taken along any particular line, by the House of Delegates or the General Session, or how much money the Association has in the bank, or anything pertaining to the business of the Association? Look in the Transactions. It is there, in full. There is one thing each member should want to know about election time, and that is the attitude of his Senator and Representatives in the Legislature, on medical and public health legislation. That is in the Transactions and nowhere else, and it is there in extenso. The President's Address and other important addresses, and such editorial references to the affairs of the Association as appeared fit at the time, are also included. They are of present if not future interest, and you may desire to have them at hand at any time.

The First Numbers of Hygeia are at hand. We are well pleased with them. They are clear-cut exponents of standard, scientific medicine for the laity. They do not appear to be devoted to propaganda. One of the dangers we had anticipated was that the public would look upon this journal as a medium of propaganda, such as many of the other health publications are. The public is quick to assume that the American Medical Association is in fact a medical trust, and interested in putting something over. There is no controversial matter to speak of in these issues, which is a good thing. Later, when it becomes clear that this is not a medium of unholy purposes, these controversial problems may be gone into quite extensively. It is here that great good will come of this publication. The only articles savoring of propaganda are those by Dr. Arthur J. Cramp, well known to the readers of *The Journal of the A. M. A.*

Of course, the A. M. A. baiters and haters have jumped on "Hygeia," along with the other good things that the present management have accomplished. That is a good sign. Evidently they are getting somewhere with it.

We trust our county societies will consider what they can do to place this publication in the hands of the laity of their respective communities.

The Ignorance of Detail Men as to the existence of the Council on Pharmacy and Chemistry of the American Medical Association, is sometimes refreshing. A nice appearing young man recently approached us in the interest of a certain (or uncertain) pharmaceutical. We listened to his story politely and when he had finished asked him if the product had been approved by the Council. He did not know. In fact, he did not know there was such a thing as the Council, and had no idea of its purposes. We very carefully explained the situation to him and when we had concluded our story he was rather peeved that his house had not put him in possession of the facts in the case before starting him on the road in the interest of this product. He insisted that it would be all right, however, and promised that if we would go ahead and prescribe the product in question, he would see that his house made everything right with the Council and with us.

A few days ago we received the following letter from one of our members (We are omitting names and places and the like, not desiring to embarrass anybody) :

"A detail man representing the firm of ——— ———, ———, ———., came into my office today and left me two sample bottles of ——— ———, and after telling me of its greatness and power urged me to give it a fair trial and preference in my prescriptions. I picked up our STATE JOURNAL and asked him on what page would I find the advertisement of his firm. He seemed a little surprised and said they had only been in our State a short time and he was not sure the ad could be found in the JOURNAL. I frankly told him the publication of our JOURNAL depended on funds received from our advertising columns and that we as physicians could not in justice to ourselves continue to prescribe a preparation, a mention of which could nowhere be found in our much beloved periodical. It stirred him up a bit and he assured me he would take it up at once with his house. If they come across will you kindly advise me."

This is an old story, of course, but "the old ones are the best."

We need not conclude that the proprietary interests are whipped. Many of these concerns have no more idea of acceding to the demands of ethical medicine than they ever had. They are aided and abetted in their defiance of constituted medical authority by the bolshevists in our ranks and those so called medical journals which cater to their peculiar views, and have no regard for medical ethics—certainly not for medical journal ethics.

ORIGINAL ARTICLES

THE DOCTOR.*

BY

JOE BECTON, M. D.

GREENVILLE, TEXAS.

According to custom and the by-laws of our Association, it is the duty of the retiring President to deliver what is known as his "Annual Address." In conformity therewith, I am before you, and in behalf of the State Medical Association of Texas, I want to thank you for the splendid attendance of so many people of this fair city, famed far and wide for its culture, refinement and education; for its magnificent hospitals, so well appointed and ably conducted; for its business interests, so large as to ramify to every corner of the earth where habitation exists, yes, and for your hospitality, which is as boundless as the sea, as sincere as the smile of a babe. We will love you always. When reverie and retrospection take us back to the happy and halcyon past, the brightest picture that we can paint on memory's canvas will be Fort Worth and her dear people.

Before I get into my subject, I want to quote from the presidential address of my lamented father, delivered thirty-seven years ago. He said: "Doctors are like other men; they have their high hopes and ambitious aspirations, and they feel keenly merit unappreciated, labor unrewarded, their field of action limited and for the most part hidden from the gaze of an admiring world." The sentiment expressed there is true today; history is but repeating itself.

An address upon an occasion like this, in my opinion, should not be a scientific medical dissertation, which, because of its technicality, would be of little interest to many of you. There is much else that can and should be said that is of vital interest to the people as well as the medical profession. I am convinced that a more thorough knowledge on the part of the public of the relation that the medical man bears to the citizenship generally, would be of great value to the profession in the furtherance of its efforts to bring about much needed medical and health legislation.

It is not so much how to cure disease as it is how to prevent it, that concerns us. Many do not understand our purpose, and the cause for which we labor is often misjudged on account of a lack of knowledge of the motive which prompts us. It is our purpose to give to the people doctors who are thoroughly trained, not only in the fundamentals that underlie our profession, but the allied sciences that are germane to it, and to secure public health laws and sanitary regulations that will protect the people from disease.

Friends, the medical profession from the time of Hippocrates (the Father of Medicine), 600 years before Christ, have spent their time, talent, energies and ofttimes their lives, for the health, happiness and life of the human race; and it is with no little degree of pride that I say that the glitter of the shining shekel, or the plaudit of men for a day, has been no incentive. Its one mission is and ever has been to make the world a better, healthier and happier place to live in. It needs no law for itself. Its life is one of consecration to duty, and that duty is to help the human race.

Governments have in the past enacted very few laws for the protection of health. Our profession has had to fight, and fight hard, for every such law on the statute books. Men will legislate concerning gold or grain, commerce or cattle, swine or wine, but for the health of its people—that's left for "the doctors to fight over." Can we feel encouraged to do our civic duty when maledictions and anathemas are hurled at us because of our activities? If it were not for a feeling something like our Savior must have had when He said, "Father, forgive them, they know not what they do," we would give up the ship and let the public drift back into that ignorance and superstition from which we have led them.

A brief retrospect, if you please; what the physician has done for mankind:

In the sixteenth century the average human life was 26 years. Up to the middle of the eighteenth century it was 32 years, and now, I am told by statisticians, it is past 50.

Did you ever stop to think who builded the Panama Canal and mingled the waters of the Occident with the Orient? France with her millions of money, her many statesmen with colossal minds, and her people of indomitable will and perseverance, got no further than to demonstrate that the gigantic project had to be abandoned. Why? Because it became a veritable gehenna. Men died by the thousands. The project was perforce abandoned, until the fertile brain of an American physician, General Gorgas, with his knowledge of disease and how to combat it, of sanitation and how to handle it, brought about the chameleon change, made order out of chaos and finally made the place a "health resort," as it were. If all the brains, intellect and nerve energy of all the chiropractors and christian scientists that ever lived or ever will live, were put into one individual and he could live a thousand years and work ten hours a day, in the end his achievements and

*President's Annual Address, State Medical Association of Texas, Fort Worth, May 9, 1923.

his results would compare like a mere streamlet trickling down some lonely dell, with the great Niagara that daily spills its millions of tons of water into the lakes. And this man was a doctor.

Who gave to the world the knowledge that the deadly yellow fever, that at one time almost depopulated our tropical and semi-tropical countries, is spread by the mosquito, and in so doing made the supreme sacrifice? A doctor!

Who discovered that malaria is not a noxious miasmic disease, thought to exist in the air, but a disease transmitted to man by the female mosquito? A doctor!

Who robbed that loathsome disease, smallpox, that leaves the mark of Cain, as it were, upon its victim, of its awful hideousness, stopped its walk of pestilence and all but confined it to the individual? A doctor!

Who demonstrated to mankind that the death-dealing bubonic plague is due to a micro-organism conveyed by fleas, from rats to man? A doctor!

Who told us that diphtheria had been robbed of its terror and its destructive power impeded by an antitoxin, that in a few hours neutralizes its poison? A doctor!

Leprosy—the disease that alienates its victims from humanity and makes them loathsome wanderers. Who now sends a ray of hope to their benighted lives? The doctor!

Who discovered the tubercle bacillus, the ghost of the great white plague, that tortures its victims for months or years before the lethal night comes? A doctor!

Who differentiated and catalogued cancer, and laid down rules for early and successful treatment? The doctor!

Who digged up pericolic membranes, diverticulums, intussusceptions, flexions and versions in the human body? The doctor!

Who gave to suffering humanity chloroform, ether and nitrous oxide; who made it possible to administer under the skin and around the nerve, or in the spinal canal, a local anesthetic that would take from surgery its pain, and yet allow the patient to retain consciousness? A doctor.

And last but not least, who found appendicitis? My God, a doctor, not a chiropractor or a christian scientist!

Friends, these are noncontrovertible facts, not theories, that will stand as Gibraltar before the onslaught of ignorance and quackery, charlatanism and misguided creeds and dogmas, as long as the mind has reason and conscience has judgment. God pity the fiend in human form who attempts to take advantage of the unthinking public, and prey upon their credulity; who makes the unholy claim that the honest, God-fearing medical man is but a merchant with wares to sell.

Let's be honest with ourselves. Shakespeare says:

"To thine own self be true,
And it needs must follow as the night the day,
Thou cannot be false to any man."

Let's contrast—study facts for a while: The medical training required of all medical schools by the Council of Medical Education and Hospitals of the American Medical Association, is a pre-medic course of two years, after high school or college work, or better than four years of nine months each, and one year's internship in a well-appointed, recognized hospital. After this comes the State Board of Medical Examiners (and I am happy to say that Texas has an exceptionally good one), before a graduate can ever offer to practice medicine.

The chiropractor—let's see. If the chiropractors have a scientific, recognized college, that pretends to give a thorough medical training, I never heard of it. I do know that they are trying to get a law passed by the Legislature to exempt them from the Medical Practice Act and give them a separate board. The bill referred to recites: "Any person shall be regarded as practicing chiropractic, within the meaning of this act, who shall publicly or privately represent himself to be a chiropractor."

No instance can be cited where a chiropractor ever gave any study to the fundamentals of medicine; to know the body in health, or to know or understand disease or its effects upon the various organs of the body. No; they want to tap the spine for all diseases from bald head to toe itch. Real health laws are to these people fantastic myths, and sanitation an enigma—an unknown quantity. They never gave to the world a single important fact. They have never by any discovery—in science or sanitation, prolonged the human life one hour. They do not nor have they held a single place of trust or responsibility in civic or military government. How long would you live in a city where the health officer was a chiropractor and the food inspector a christian scientist? These people are but amoebas and parasites on humanity—their only specialties are Gullology, Spinology and Dollarology.

Friends, we are all building character, consciously or unconsciously. Emerson said, "I am a part and parcel of all that I come in contact with," and Omar Khayyam wrote, truly and beautifully, these lines, in the twelfth century:

"The moving finger writes; and having writ,
Moves on: Nor all your piety nor wit,
Shall lure it back to cancel half a line,
Nor all your tears wash out a word of it."

We cannot stand still. We find progress the handmaiden of effort, climbing loftier altitudes and achieving greater possibilities. What we begin for ourselves, God finishes for others. Others begin where we leave off, and carry our work to a stage nearer perfection. We must bequeath to those who come after us a noble design, worthy of imitation. Well done, well doing and well to do, are inseparable conditions that reach through all the ages of eternity. We are working, building and writing for humanity of today and posterity of tomorrow.

There is no profession that has such a variety and intricacy of relations with the world outside itself, as the profession of medicine. The maintenance of these relations between the practitioner and the patient, preserve the dignity of our calling and make it a benediction to the body and soul of man. We realize that the practice of medicine and surgery is a public trust, and unless we keep step with the colossal strides that science is making day by day; unless we are students and keen observers of technique, are microscopical and pathological researchers and listen to the oracle speaking from the sanctuary of healing, we are betrayers of that trust. May God forbid that such shall ever be the case. Ignorance is pitiful at all times, but it is criminal when it toys with human life and happiness.

Spiritually, the doctor is often the father confessor of the family, and it is his duty to lend a ready ear and, mark you, to forever keep inviolate the confidence thus reposed; as Oliver Wendell Holmes says, "He shall keep as silent as the woman who wore the scarlet letter in the market place." The intimacy, the delicacy of relationship sustained by the physician to the laity, requires him to be, or try to be, pure in heart; for him no boudoir holds a Magdalene or Jezebel. Think, my friends, of the majesty of a profession which has a standard like that.

We know what it means to maintain calmness in the presence of a frightened patient and family. It has saved many a life, averted many a tragedy. Macbeth's question to the doctor, "Canst thou not minister to a mind diseased?" means more than poetic rhythm. Even the surgeon, accustomed to the proofs of material evidence, cannot entirely overlook the psychic side of things; we must and do consider the influence of the mind on the body and of our mind on other minds about us. Therefore, it is more than a point of ethics, when I say that we should bring a cheerful word and a hopeful face into the sick room.

If the doctor is not constitutionally a humanitarian, his calling forces him to be one. His peculiar relation to his people means charity in a sense almost compulsory. For, when God's poor are to be served, the consecrated physician willingly faces the elements and all dangers, at the risk of his own health, yea, even his life.

Let us consider what the laity owes us. The moral obligation is, or should be, to help us—help us to get good, wholesome laws that will protect the people from ignorance, quackery and the cults; to demand that physicians be trained, and that they at least be as competent to diagnose disease as the lawyer is to write a deed to a hundred-dollar lot. It would seem, in many instances, that the laity wish the doctor, as they would wish a statue, as an ornamental figure. How can the physician get results when the rules of procedure are openly and secretly violated? Unless we can have and retain that childlike confidence, our work is robbed of half its usefulness.

Another common error is the thought that the doctor is devoid of sympathy, because he does not wear his heart upon his sleeve. Picture, if you can, a diphtheritic child struggling, clutching and fighting for a breath of air; it suffers cruelly, while the anxious parents bend over in an agony of hope and fear; the pangs of pain sink into their very souls, like darts of steel; their only hope is the "doctor," and I speak a genuine truth when I say that he who in that hour stands in the Garden of Gethsemane is he who holds the gray wolf of death at bay. So, friends, accord to us the virtue of sympathy, quickened, not blunted by experience; guided, not strangled by self-control.

But the most agonizing—the most crucial hour that comes to the doctor, is when he must stand helplessly upon the shores of disappointment and see the frail bark which he has tried to keep in port, loose its moorings and drift, drift out upon a shoreless sea, while lingering love mournfully cries its piteous farewell. You do not—you cannot know how the doctor suffers; you cannot see the anguish of his heart; a human life entrusted to his care and keeping is lost to this, our mortal world.

In spite of the trials, the profession has its compensation—has it in the triumph of science over superstition; has it in the sacred feeling that it is ministering to those whom He made in His own image, and, last but not least, has it in the gratitude of that mother when she looks into the baby blue eyes of her first born, and sees the rose of health returning to the wasted cheek, and the look of peace that gradually steals in on the face of pain.

The doctor is adviser, friend and physician, and to him, in times of perilous disease, when

the tempest-tossed bark of life is being dashed from crest to trough by the turbulent waves of pain, he seems the only mariner who can guide us safely and smoothly into a port of sweet tranquility. He comes not like the plumed knight or the gilded warrior; his mission is not amidst the sound of trumpets or shouts of men, or the rattle of shot or shell, to rush into a vortex of carnage and death, but like a ministering angel, softly, gently, he soothes the aching, quiets the delirium, fights back the grim monster death and lets in the sunshine of life. No cold, cruel hand of ambition pushed you from his heart; he does not want to climb the ladder of fame and place his star in the galaxy of success through death, devastation and ruin to his fellow man. No, thank God, he presses forward to lift the fallen, cheer the dejected and cast the mantle of charity over the shortcomings of humanity. Like the meek and lowly Nazarene, the blessed God, he says, "Go thy way and sin no more."

We see him when the curtains of night are drawn, and the cloak of darkness is spread over the sleeping and dreaming world, sitting by the couch of some poor sufferer—it may be a stranger in a strange land, far from home, far from sister's care and a mother's love, whose suffering and agonies he endeavors to alleviate. It may be some brave and daring boy who has sacrificed his life upon his country's altar, and falls bleeding and torn, beneath the shadow of her flag, with only the patient doctor to receive his farewell message, e'er that noble soul marches beyond the breastworks that divide him and eternity. It may be a hoary-haired patriarch, who is only waiting for the Divine call to come and receive his "Well done, thou good and faithful servant, enter into the joy of thy Master," or it may be some poor, lonely, heartbroken mother that the doctor and the angels are keeping vigil with, over the couch of her wasted and emaciated child, with parched lips and anxious countenance, with brow bedecked with the cold and clammy sweat of death, its little voice so faint and far away that the watchers have to hold their breath to listen for the last sweet, sad lingering accents.

There are many doctors here who have heard some little one say, "Don't cry, mamma, I'll be better tomorrow," and close its lovely little eyes to awake beyond the stars, for the flower has been transplanted in the Garden of God, where the night of death never comes. There is no higher calling; there is no life so self-sacrificing, there is no one who gives his all to his fellow man, as does the doctor. He is the same, yesterday, today and will be forever more.

In the even tenor of his way, he goes from the squalid hovel, where poverty nurses as a child and misery lends a helping hand, to the splendid palace, where opulence is a burden and lucre is a plaything. The same gentle demeanor characterizes him at all times and none but his colaborer, the minister, knows how the world lives from the cradle to the grave.

The one fact of which I am the proudest of all, is that God never made a coward and a true doctor in the same man. There is no record in present or past history where any people, of any nation, clime or country, where disease, plague or pestilence stalked by day and night, claiming its victims by the tens of thousands, but some good doctor went fighting, fighting, until perhaps like our own brave Dr. Manning of Austin, in 1878, went to Holly Springs, Miss., during the yellow fever scourge, and remained at his post of duty until that bright life, from exposure and self-denial, like an untended flower, withered, drooped and died. Such acts will not soon fade from the memory of men. That star shed a lustre that will forever shine through labyrinth of years, until methinks the reflection shall be caught and cast upon the throne of God.

RESPONSIBILITY OF THE STATE FOR THE HEALTH OF ITS CITIZENS.*

BY

T. W. DAVIDSON,

Lieutenant Governor, State of Texas,

MARSHALL, TEXAS.

You have listened to the introduction of my friend, Holman Taylor. I well recall that when I was a little boy over in Harrison County, Dr. Taylor was a prominent physician. We naturally learn at the feet of our elders, and I received my lessons in medicine from him.

I have listened to the eulogy paid to the City of Fort Worth by your eloquent mayor. Marshall lays claim to much that Fort Worth is or hopes to be. Marshall is one of the cities of the East, and Fort Worth is one of her fairest daughters. Not only, my friends, do we claim the boyhood of Dr. Holman Taylor; not only do we recall with pride the place of his birth over in old Eastern Texas, in Harrison County—in God's own country, but in that land of peach blossoms and delightful fruits we recall that he led to the altar his beautiful bride. But we have an older claim than that on Fort Worth. Some seventy years ago, in the clay hills and roads of old Harrison County, there were two boys, each with a stone bruise and a sore toe. They

*Address delivered upon invitation before the State Medical Association of Texas, Fort Worth, May 8, 1923.

are still boys, but living in the City of Fort Worth now. One of them is a director, I understand, in one of your great banking houses, and the other the head of one of the great legal firms of the Southwest. Seventy years ago they were sons of Harrison County, and today they are fathers of Fort Worth. I refer to those beloved citizens of your town, Judge McLean and Colonel Van Zandt. So, when I say that Fort Worth is one of the fairest daughters of old Marshall, you see that I have claims for my charge and my allegation. You know, we lawyers, before we undertake to prove anything, first allege it. I first alleged, and I believe that you will agree that I have proved.

In the beginning, my friends, Cain asked of the great Jehovah, "Am I my brother's keeper?" When the population of the country was sparse and there were but few, the answer, he thought, was self-evident, "I am not my brother's keeper." But now, when we consider the public health of the country; when we consider the property rights of our neighbors; when we consider the constitutional guaranties of this country, we must come to the conclusion that the welfare of our neighbor is dependent largely upon our conduct; that his welfare, his security, his property rights, as well as his life and health, are dependent upon the well-being of the state government, I answer now, we *are* our brother's keeper; and there is no profession, no class of men anywhere, that exemplifies that more than the medical profession. The day has long since passed when a man should retire as a hermit and let the world wag, for verily no man liveth to himself, or dieth to himself.

PERSONAL LIBERTY.

My friends, as was suggested by Dr. Taylor, I was and am slow to throw any restriction about a man's liberty, or freedom of action. I was brought up in the political school of thought of Thomas Jefferson. I believed that the government that governed least governed best, and I was, therefore, slow to apply any restrictive measures, or draw around the right of action of any man any limitations, except those that appeared to be necessary. In other words, I believed to a large degree in that doctrine of the fathers known as personal liberty.

Your neighbor may feel that he has the right to erect a livery stable or a pig sty, or any other institution that he feels privileged to build, but his personal liberty and his rights end just where yours begin. He can not, in the exercise of an untrammelled and unrestricted right, encroach upon your own comforts, your own happiness and your own well-being. When I sit next to you, as long as I occupy the space of my chair, I am within the realm of my personal liberty, but when I strike elbows with you I have encroached upon your realm of personal liberty.

When a man so uses his property that he interferes with the happiness or well-being of his neighbor, his right of control ceases there and the right of the State steps in. If I, in the exercise of my property rights—say, in the management of a compress or manufacturing establishment, distribute a great number of water barrels or open tanks around my premises, I may think I have a right to keep them there, but the law says, "No. Although that may be your property, sir, you have no right in those open receptacles, tanks or barrels, to breed an insect and a pest that will spread over the community and bring destruction to the health of its people."

I noticed in the paper a few days ago where the Federal grand jury had been right active. Concerning which, an old gentleman—a signer of the Texas Constitution, along with Judge McLean, came to me and said, "I had laid up a little for a rainy day. I saw a chance to get rich by buying oil stock, and I bought it. Now, all my money is gone." The law of the land has said that you shall not misrepresent the things you have to sell through the United States mail or otherwise. There is a restraint and a restriction thrown around you. Even in God's country, over in the old red hills of East Texas, they sometimes go wrong. A man over there, who lived on a farm in Cass county, ran an ad, in very poetic language, in one of our northern papers, like this: "Seed peanuts for sale. Sixteen to the pound. Tops like alfalfa and flavor like cocoanuts." I felt sorry for that gentleman when he was brought before the Federal Court in Jefferson. The judge said to him, "You know you have no peanuts that will weigh sixteen to the pound. You know you have none with tops like alfalfa. Why did you put that in the mail to defraud your fellow man? This is your first offense, so I will just give you a short term at Fort Leavenworth."

Suppose that you landed here from some foreign country, from Mars or some country not so far removed, or your sister city on the east, and you suddenly found that you badly needed a physician—you had been poisoned, or a member of your family had been run over by a street car or an automobile. You called a man supposed to be skilled in the art of medicine and surgery, and the man that you secured was incompetent. You had no time to inquire of his skill—you saw your loved one bleed to death or succumb to the poison because that man was inefficient; he was not trained in the profession wherein he claimed to be skilled. Would you then say,

as Cain said to Jehovah, "Am I my brother's keeper?" Would not the man as he followed the funeral cortege turn and say to the citizenship of Fort Worth, and to the sovereign State of Texas, "Why do you permit a man without qualification and without competency to hold out that he is a healer of disease and capable of taking care of us in sickness and distress?" We revolve back to that old maxim, that man is his brother's keeper, and as it behooves the intelligent citizenship of Texas and Fort Worth to protect the stranger that is in our midst, so it behooves us to protect one another.

Today is a day of specialists. I am busily engaged in my profession, in my office, and I do not find the time, nor do I have the opportunity, perhaps, to inform myself about the things the medical profession is doing. Not having that time nor that opportunity, I may be the victim of such a mistake just as was our hypothetical stranger.

You know the American is easily fooled; in fact, it has been well said that we like to be humbugged. You have heard of the lease hounds. Whenever oil is discovered in a locality, they gather there like vultures, and some of them make vast sums of money. They come from the four quarters of the earth. One of them died and went to heaven, and when he got to the gates, he asked Saint Peter for admission. Saint Peter said, "Your department is already filled to overflowing." "Well, Saint Peter," he said, "may I not have a look in, just through the open door, just a little bit to see the boys?" He opened the door just a little, and the lease hound threw in a pamphlet announcing, "Oil discovered in Hades!" In a very few moments, there was all the room he needed. After he had looked around and found himself in the midst of a lonely solitude, he went back to Saint Peter and said, "There is so much excitement about that discovery there may be something in it, and I want you to let me out, that I may go and see about it."

POLICE POWER.

My friends, realizing the necessity for that common protection of man to man, and citizen to citizen, we have evolved through the years a police power in our State, designed for the protection of men, for we are now inter-dependent. It was early recognized that when some pestilence like small-pox, Asiatic cholera, yellow fever, or bubonic plague, broke out in a community, it was the privilege and urgent duty of the State to throw around that community a quarantine, and even to go into the very home of the infected. The State has the right—and it is its bounden duty, to throw about its citizens, for their protection, that arm of the law known as the police power. That particular kind of police power has been assailed in the courts as being contrary to the fundamentals of our government, but the courts have said, "This is an exception," and the exception has become the rule; and having become the rule, no one questions its wisdom.

Not only do we protect the health of our citizens by quarantine, but by the criminal law as well. Take, for instance, the great city of Madrid. A little over two hundred years ago, there was no such thing as a privy or sanitary closet in that city, to say nothing of a sanitary sewer system. When the King of Spain ordered that closets should be erected throughout the town, the people said, "It is an interference with our private homes, and an interference with our liberties as citizens of the realm." Not only do we now require the installation of closets, well-screened, but in all well-regulated cities there is a sanitary sewer system. The police power has stretched its arm still further and requires connection of the homes and business houses with that sanitary sewer system.

No one would say that it is not for the state, national or municipal government to enforce rigid quarantine against bubonic plague, cholera or any of the other great epidemics, or even those of smaller degree, which carry death and suffering in their wake.

The recent war developed the fact that a large percentage of our male population subject to military duty, were directly or indirectly sufferers from some venereal disease, which would prevent their being efficient soldiers in the defense of the nation, deprive them of their chance in life, and visit upon the unborn generations suffering, blindness or insanity. While it may seem an invasion of the most sacred precincts of the home and private life, yet the hour has arrived when these diseases must be brought under control by the police power of our government.

The contention that if an individual wishes to submit himself to a course of destruction it is a private affair, is no longer tenable, when we find that he is crippling the arm of national defense and visiting misery upon his unsuspecting life partner and generations yet to come.

PUBLIC UTILITIES—WATER SUPPLY.

Not only has the State thrown the protecting arm of police power about its citizens in the enforcement of penal statutes and quarantine regulations, but it has gone into the field of public utilities and requires for the use of our citizens a healthful water supply. When we recall the immense aqueducts

in and around the City of Rome, in the pride of its imperial power and great population, we realize that this is no new idea. Rome at one time had 14 large and 20 small aqueducts, some of which brought water a distance of many miles, furnishing pure, fresh water from the mountains to the city, and carrying off the refuse.

SCIENTIFIC RESEARCH.

Not only is the health of the state protected by the police powers of the country and by control of the public utilities, but wonderful advancement has been made in the laboratory. Through research has come the Pasteur treatment, an antidote for that most dreaded of diseases, hydrophobia. The source of malaria and yellow fever have been discovered and those diseases prevented. The typhoid germ has been brought under control. Vaccination for small-pox and various other kindred complaints, has saved the lives of multiplied thousands.

Before the days of these discoveries, and prior to the time when such safeguards were used, the death rate, especially among children, was much higher than it is today. For instance, during the period 1750 to 1760, six out of every ten children born in Prussia died before reaching the age of ten years. During the same period, one out of every five, or 20 per cent, of the English died before reaching 20 years of age. During the Spanish-American War, thirty out of every thousand soldiers died from typhoid fever. One out of every six contracted this disease. During the recent World War, only one out of every 3,756, approximately, contracted the disease; and out of the 4,000,000 mustered into service, there occurred only about 213 deaths from typhoid. My father was one of those who surrendered at Appomattox. Had the Civil War death rate obtained in our immense Army of the World War, the deaths from typhoid would have been over 68,000, instead of only 213. The nation, and humanity itself, is deeply indebted for the discoveries made by the medical profession.

I might cite the conquest of Panama, in the construction of the great canal. When De Lesseps undertook to build the canal, all the labor that he brought from home died of yellow fever and malaria. He went to China and brought over the unsuspecting "coolies," and it is said that when he had constructed the railroad across the isthmus, every tie in the track represented a dead Chinaman. When modern America went there to construct the canal, the first thing done was to overcome the mosquito, and malaria and yellow fever vanished. Gorgas made Panama a safe place in which to live, where the death rate is no greater than in this healthful locality about which you have just learned.

THE DOCTOR A CITIZEN.

In conclusion, let me say that the medical profession of Texas, in addition to being physicians, are citizens. Members of the medical profession—men who are trained to think—should not hesitate to exercise the right of suffrage and make their voices heard and felt in the affairs of State, not alone in the interest of public health, but there particularly, because that is the subject to which they have given most consideration.

The physician, by reason of his immediate contact and his interest in the lives of his patients, can be a power in encouraging men and women toward the exercise of the duties of citizenship. Pessimism and bolshevik tendencies must be discouraged and sat upon, if our state institutions would survive. Men often criticize state and municipal governments when they have no concrete plans of their own. Men may criticize the verdicts of juries, and habitually evade jury service themselves. Men may criticize public officers and yet never devote one hour toward the duty of selecting good men for positions of trust. The man who does not try to place at the helm of State capable and conscientious citizens, trusted and tried, is recreant to his duty as a man and as a citizen.

The time is at hand when men with convictions, who are not afraid to speak, should be placed on guard. A public official without backbone enough to declare himself upon public questions is not strong enough to say "no" to those who would graft on the public treasury. I would rather have an honest, outspoken man in public office, even though he differed with me on half of the issues before the public, than one who disagrees with me about nothing. It has come to be current belief in state and municipal affairs, that the government must pay more for service, material and construction, than the individual would pay in private business. When more of us take an interest in this great corporation in which we are all stockholders, we will have a public service wherein the taxpayers will get 100 per cent on the dollar that the state spends.

I want to express the pleasure of being here with my friend, Dr. Taylor, and in the city of my old countrymen, Colonel Van Zandt and Judge McLean; and above all, being with this distinguished body of Texas citizenship who think and who think to a purpose—and that purpose for the betterment of humanity.

OBLIGATIONS OF THE LAITY TO SCIENTIFIC MEDICINE.*

BY

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Many years ago I became convinced that the relations between the laity and the medical profession were becoming somewhat less cordial; that the laity no longer held for us the love and esteem which was granted without reservation to our forefathers. With the passing of the years I have seen this gulf widen, until it has at times seemed that our people were wholly unappreciative of the many magnificent gifts scientific medicine has bestowed upon them. Events of the quite recent past have served to strengthen this opinion. We have seen one of the most constructive bits of legislation ever brought before our legislative bodies, fought from start to finish with a bitterness rarely equalled and never exceeded. We have been openly and freely charged with selfishness and a desire for class legislation when, as a matter of fact, we were striving only to protect the public against fraud and ignorance. But for the steadfast loyalty of a few devoted friends in the Legislature, who believed in our sincerity of purpose and who had the necessary intelligence to properly evaluate the importance of the proposed legislation, these measures would most certainly have been lost.

We have witnessed the spectacle, in recent court proceedings, of a jury absolutely disregarding the testimony of a group of six or eight physicians, who unanimously contended that a certain allegation could not be true. So far as the records show, these physicians were all honest, respectable, law-abiding, God-fearing citizens, and I submit that the situation is at least disconcerting, when the testimony of such as these is not allowed the same consideration as that of other witnesses who have sworn to tell the whole truth and nothing but the truth.

I have given much careful thought to this state of affairs, and have searched diligently for an explanation. I have reached the conclusion that the fault lies within the profession itself. Not perhaps so much the fault of the present generation as of our fathers and grandfathers, as we have merely followed the example they set. It will be our fault, however, if after recognizing what is wrong we do not take steps to correct it.

During the last hundred years no effort has been made to popularize the practice of scientific medicine in the public mind. During the last fifty years many of the most momentous discoveries in the history of medicine have been made. Many of them have been so revolutionary in character and have followed each other with such amazing rapidity, that the evolution of medicine has progressed much faster than the average lay mind could grasp it. Instead of patiently attempting to explain in non-technical language, we have assumed an air of reticence and superiority, equivalent to saying to the public: We cannot waste our valuable time with you because the matter is so complicated and difficult that you could not comprehend it and you must, therefore, accept our word for it.

In the meantime, the newspapers have become great educational institutions and moulders of public opinion. The average citizen is content to allow someone else to do his thinking, and looks to his newspaper for his information. And what have they been reading? Pages and pages of patent medicine advertisements, detailing wonderful cures; whole volumes relating to a pseudo-scientific, semi-religious doctrine, which appeals neither to reason nor intelligence, but to emotions and desires; glaring misrepresentations regarding the efficiency of grotesque and fantastic theories of healing, irrespective of the nature of the disease, and not one word about scientific medicine. Is it any wonder that the public has been following after false gods? Is it any wonder that scientific medicine, which embraces all that is rational and reasonable in the healing art, has been gradually losing the respect and confidence of those who have been the chief recipients of its matchless benefactions? I say to you, no! And I say, further, that unless we take steps to inform the laity to a degree which will permit them to comprehend, to some extent, what we have accomplished for them in the past, what we are now doing for them, and what we hope to be able to do in the future, we have only ourselves to blame if future historians charge us with failing to do our duty.

The lay people *can* be taught the significance to them of scientific discoveries. As evidence of this, I submit to you that the average intelligent layman of today knows more about the rational treatment of pulmonary tuberculosis than did the average doctor a quarter of a century ago. They can comprehend, if we will but tell them, that, owing to disease and pestilence, the population of Egypt did not increase its total in more than three thousand years. Only when medical science discovered a means of stamping out epidemics did the births begin to exceed the deaths. They can understand, when we tell them, that the population of the English

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Isles and the Continent of Europe, exclusive of Russia, was practically the same in the eighteenth century as it was four hundred years before. It is true that during those four centuries there were periods of tremendous increase, but these periods were invariably followed by famine or plague or epidemics of one kind or another, so that no permanent gains were made. About the middle of the fourteenth century the "Black Plague," imported from China, swept over Western Europe, taking a toll of what was estimated to be between 50 and 75 million lives. It depopulated the known world of one-fourth of its inhabitants. No human being alive today, can conceive of the awfulness of those days. We can all recall, and some of us with a feeling of horror, the mortality which attended the influenza epidemic of a few years ago. Bad as it was, what would have been our reaction had only from twenty-five to fifty per cent of the people of our cities or our nation survived? And yet, such things occurred with a considerable degree of regularity a few centuries ago.

Many of the agencies which have contributed toward making this world a better place in which to live, have been developed in years so recent that some of us need turn back only a few pages in memory's book to vividly recall our impressions when the discovery was first announced. The use of these various methods of relieving human suffering and prolonging human life, has become so universal that they are accepted as a matter of course—much in the same manner as are the telephone and electric light.

The people in a vague, indefinite manner, are generally aware of these facts, but they think of them much as they do the sequence of night following day and spring following winter. Because we have never taken the trouble to inform them, they do not appreciate the fact that many of the accomplishments of today are not mere accidental discoveries but are the result of long years of patient toil and study. They may know, but not because of our telling, that all of these discoveries for the benefit of humanity are the result of conscientious, intelligent and persistent endeavor on the part of highly educated, scientific men, and that not one has come from a commercialized, half-baked theology or a chimerical, one-idea system of healing.

All intelligent people now know that malaria is not caused by "bad night air," but by a parasite transmitted to man by mosquitoes; they also know that the powerful lens in a microscope enabled a doctor to discover this parasite in the red blood cells. But they have little or no idea of the months and years of study and work by men of science before this fact could be demonstrated.

It is not necessary that people be advanced in years to be able to remember the last great epidemic of yellow fever in New Orleans, or to recall that up to that time many world ports were never entirely free from this disease. How many know that the doctor who made the discovery that yellow fever was also transmitted by mosquitoes, gave up his life to science that his theory might become an established fact.

People do not have to be old to remember that during the Spanish-American War typhoid fever killed more American soldiers in the Chickamauga camp than it did in the combined armies of the world during the four years World War. Real, not pseudo, science accomplished that feat.

Many of us can remember the days when diphtheria demanded a toll of from 50 to 75 per cent of its childish victims, while now, if antitoxin is administered promptly, the death rate is practically *nil*. Does the public need to be told who discovered diphtheria antitoxin?

No longer ago than the early months of the World War, lockjaw claimed its victims by the hundreds. Before the war was over the routine administration of antitetanic serum to wounded soldiers had reduced the mortality from this disease to almost nothing. Need we remind the people that the only "healers" in the armies were college graduates, practicing regular medicine, who had acquired a sufficient amount of education to pass medical examinations?

It is not so many years ago that a compound fracture ordinarily resulted in death, unless amputation could be promptly done. Today these cases are very rarely fatal, and amputation is seldom a necessity. But, so far as I am aware, none of these cases have recovered as a result of "absent treatment" or tinkering with the backbone.

To continue this list of accomplishments is merely a matter of enumerating them, and I will conclude by reminding the public that the milk it feeds its babies and the very water it drinks, is pure because of the efforts of the medical profession.

The value of scientific medicine can be calculated only in such terms as express its worth to the people. What it may or may not mean to the medical profession is of no importance. If its influence is for good it should continue; if bad, it should be relegated to the scrap heap. It would appear that there is sufficient evidence, of a kind the public can understand, to justify the opinion that scientific, unlimited medicine has been, and still is, serving a useful purpose. As late as the be-

ginning of the eighteenth century the average age at death was about 27 years. Today, in the registration area of the United States, the average is approximately 56 years. In the state of Kansas the average age at death of all males is 59 years, and of females 60 years. Whatever of worth this prolongation of human life may be, must be credited to medical science.

It is probable that the origin of medicine is nearly contemporaneous with the origin of civilization, but for the student it must necessarily begin with its recorded history. Its earliest period is enveloped in profound obscurity and so mingled with myth and fable as to be very uncertain. It embraces an indefinite time during which medicine was not a science but an undigested collection of experimental notions, vaguely described and disfigured by tradition.

The earliest records which bear any semblance of authenticity are gathered from the Scriptures. Thus we read that Joseph commanded his servants and physicians to embalm him; this being about 1700 B. C. The writings attributed to Moses embraced rules of the highest sagacity, especially in public hygiene. Many of the rules concerning public health found in the book of Leviticus, could hardly be surpassed today; particularly is this true regarding the measures suggested for the prevention of the spread of leprosy, which disease the ancients undoubtedly confused with syphilis.

This very brief reference to the history of medicine is for the purpose of calling attention to the fact that all those who wish to investigate will find records of some sort running back approximately four thousand years. They will find that no other system of healing has endured over a like period. They will find that during those four thousand years each succeeding century presents its added quota of imperishable facts. They will find that during this time all sorts and kinds of strange and peculiar theories regarding the healing art have sprung up, flourished abundantly, only to perish and fall by the wayside, simply because a house had been built upon the sands. It is only fair to say, however, that in nearly all these absurd and fanciful theories could be found a germ of truth—a grain of wheat in a bushel of chaff. All that has come through in the distillate of time and experience has been preserved and added to the armamentarium of the real physician. If such as investigate are unprejudiced observers they will find that every good and useful discovery, regardless of its source, has been incorporated into scientific medicine and utilized for the good of humanity.

In this year, 1923, A. D., we suggested to the legislative bodies of Texas that all who desire to practice medicine should present evidence of certain educational qualifications, thereby complying with the law already upon the statute books. Our opponents declared this request to be an unwarranted innovation and an interference with their personal privileges. Obeying the law may interfere somewhat with their custom, but to the charge that we are guilty of instituting an innovation we enter a most emphatic denial. If they will but look back into Roman history they will discover that Anthony the Pious was the first to occupy himself with regulating the practice of medicine. He granted certain immunities, but did ask for proof of qualification. No one could practice within his jurisdiction without examination and authorization. Those who transgressed this regulation were punished with a fine of two thousand drachmas. As these events occurred about the year 400, A. D., and as we have had some sort of rules and regulations regarding the practice of medicine for at least 1,500 years, we feel confident that our position can be successfully defended when we disclaim any originality in making the simple request that before beginning the practice of medicine everyone should pass an adequate test.

History will also inform the investigator that our attempts to amalgamate religion and the science of medicine is not a new thing. Even before the beginning of the Christian Era the secrets and learning of physicians tended to pass into the hands of the priests. It was so in the temples of ancient Greece; it was so in Alexandria; it became so in Rome; it has been so even in more modern times, although only for brief periods of time. This has come about very largely because, owing to ignorance, credulity and superstition, diseases have at all times been regarded by the ignorant as evidence of divine wrath and chastisement, or of diabolical or occult influences, rather than as the natural effect of natural causes. Hence, people have ever turned toward prayers, exorcism and expiation, especially when exhorted thereto by religious leaders. This has been the sacerdotal aspect of the practice of medicine through all time, and when the priests have usurped therapeutic functions they have done harm rather than good. So long as theology and science work hand in hand, each redounds to the credit of the other; but always in the history of man when theology has appropriated that which did not belong to it, it has brought ridicule upon itself and delayed the progress of knowledge.

The early work of physicians is not inspiring, but they gradually emerged from the mud and slime of ignorance and superstition, always advancing and never retreating, until the records now form an unbroken chain of

glorious achievement. In this record the medical profession finds an excuse for a certain degree of pride and satisfaction. They believe, as did that illustrious Frenchman, Rene Descartes: "If ever the human race is raised to its highest practicable level, intellectually, morally and physically, the science of medicine will perform that service."

If this word picture accurately reflects a few of the things scientific medicine has accomplished for the people, it would be perfectly logical to ask why do they patronize, to an extent which permits them to exist, these irregular, untried and unproved systems of healing. I believe the answer can be found in one of my opening paragraphs, wherein I stated that for generations the medical profession has made no effort to popularize scientific medicine by keeping the laity informed regarding its progress and what it has accomplished for them. In other words, it has made no effort to "sell" them the idea that scientific methods are better than unscientific methods.

In the commercial world it is well known that no matter how meritorious an article may be, it requires advertising to sell it. It is equally well known that, however worthless an article may be, a sufficient amount of skillful advertising will create a demand for it. It is almost heresy for a doctor to suggest advertising in any relation to medicine and, lest I be unfrocked for so doing, I hasten to explain that I am not advocating publicity regarding personal achievements, even though the claimed achievements be ever so genuine. I am, however, maintaining that it is our duty to both the public and ourselves, to see to it that scientific medicine once again assumes its rightful place beneath the sun, and if accomplishing this can be called advertising, then let us advertise. With your permission, I will quote briefly what the noted author, Dr. Frank Crane, has to say about advertising:

"As modern business has emerged into self respect, so advertising has changed in quality.

"At one time it was a mere blowing of one's own horn and considered impudent and vulgar.

"The only ethical thing was supposed to be never to make any claims for the excellence of your work or the value of your wares.

"Advertising took on another nature when the business world discovered it must come out into the light.

"Advertising means the sunshine in business.

"It means that a man is entitled to the self respect which his labors have earned for him.

"It means that advertising, instead of being clever lying, is the cleverest kind of truth telling.

"It means that advertising capitalizes honesty.

"The reaction of nation-wide advertising is to produce a nation-wide standard of quality.

"The merchant of today recognizes that advertising is an integral part of his business and that it is as necessary for him to let the world know his service honestly as it is for him to perform it honestly."

The National Advertising Association has had much to say in recent months in regard to dishonest advertising, and has given the public much valuable information concerning various fraudulent schemes of unscrupulous promoters. It has repeatedly advised the investing public to patronize the honest, ethical, licensed bankers and bond dealers and eschew the get-rich-quick fake stock salesmen. After all, is there not a similarity in the mental processes of those who purchase worthless stocks and those who patronize the J. Rufus Wallingfords of the healing art?

In conclusion, I wish to suggest to the public that the advice of the Apostle Paul, although offered two thousand years ago, is still good: "Prove all things; hold fast that which is good." To the medical profession, I suggest unremitting effort to render a higher and better quality of service; that collectively they maintain a standard of which as individuals they could be proud, remembering that the individual is measured by the character he makes for himself. If the esteem in which his neighbors hold him is high, his character is good, and if that esteem be low, his character is bad. The conduct of every man is the artificer of his character. If there is nobility in the man it will assert itself. On the other hand, if he be a scamp his neighbors will find that out and advertise it. I suggest further, that we institute a campaign of education, state-wide in character, nation-wide would be better, informing the public of its obligations to scientific medicine, in the justifiable hope that a better understanding would result. If the work is thoroughly done I have no fear of the outcome. I am satisfied that the public is inherently fair-minded, and if we will but take the pains to properly place our "goods" before them, so that they may compare them with other "goods," they will have no difficulty in determining which are real and which are spurious.

Glyco-Pepto Milk Not Admitted to N. N. R.—The Council on Pharmacy and Chemistry reports that Glyco-Pepto Milk is a sour milk said to contain bacillus bulgaricus, streptococcus lacticus and glycobacter peptolyticus. The preparation is marketed by the Glyco-Pepto Manufacturing Co., Long Island City, N. Y., with the claim that its administration supplemented with a potato diet though the presence of glycobacter peptolyticus permits the implantation of the Bulgarian bacillus in the lower intestine and thus brings about an almost complete disappearance of phenols and indoxyl from the urine. The Council reports that Glyco-Pepto Milk may be a pleasing beverage and light food, but that there is no acceptable evidence for the many therapeutic claims that are made for it. The Council declared the preparation inadmissible to New and Nonofficial Remedies.—*Jour. A. M. A.*, April 21, 1923.

IN MEMORY OF OUR DEAD.*

BY

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In no other country on earth have people such sacred regard and profound respect for their dead as we of America. No other people in the world hold so sacred the memory of its departed. It is with that feeling of veneration, of respect and love for our departed friends, that we are come to pay tribute to their memory.

To the families of those who are dead, let us wish for them and each of them, that the life of their departed may be an inspiration; their memory a benediction. Then for them will the sun shine brighter, the birds sing sweeter, the violets be bluer and roses more fragrant as the days go by.

There was published recently, in the *Detroit Free Press*, by a layman, a beautiful tribute to the life work and helpful humanitarian efforts of the doctor. I quote the following:

"In the name of thousands of unbroken homes, in which midnight hand-to-hand battles have been fought with death and won, in the name of thousands of lives rescued from abnormality and made useful, in the name of unshed tears, and of forestalled pain and baffled death, I doff my hat to the doctor.

"May every moment of pain that he has saved to others shine in the crown of his life like a bright star.

"May every parent to whom he has saved a child and every child to whom he has saved a parent, each take time to acknowledge the doctor's worth.

"And in the inevitable hour may a certain adversary recognize a noble foe and deal gently with the doctor."

In the fullness of early manhood, in the pink of health, at the period of life when ambition soars aloft and obstacles, though insurmountable, do not impede, they departed this life.

Those, our departed friends, solved their first real problem while scanning the tresselboard of life; they chose the medical profession as their calling. Each determined to perfect a finished ashlar—his character; each determined to polish his own gem, the intellect. In the professional spirit, work was begun to gratify a personal interest. To that ambition, in all its meanderings, his heart and life were given.

Through it all, there has been a passion for perfection, never realized and never abandoned. Each day carried forward new accomplishments and disclosed wider ranges in which skill might be extended. Hardships, lack of gain, failure of recognition, were matters of slender consequence. The work itself was his reward. He knew the equal distribution of advantage in our profession, and its insistence that each individual be faithful to what he undertakes for the benefit of all.

From beyond the time of recorded history it has been the ambition of men to seek to perpetuate their memory. It was the life's work of kings and rulers of the earth to leave some permanent and lasting monument to their memory. The Pharaohs builded the pyramids and tombs of Egypt, and these have stood the test of time for thousands of years, but with the passing of the ages nature is slowly but surely dissolving them. Many of their most striking characteristics have long since disintegrated, to again form the elements that composed them. Ruins of these gigantic structures is all that is left to tell the story of the powerful kings who ruled the valley of the Nile in the early dawn of its habitation. Little knowledge remains of their individuality, of their personal character, of their helpfulness to humanity or of what they did for science. We have knowledge of few accomplishments of any of them. In fact, their remains no identification of them as individuals.

In the excavation recently made in what we are told was King Tutankamen's tomb, the question has already arisen as to which king this was, or whose tomb it is, and what manner of man occupied its sanctum. These powerful rulers sought to perpetuate their memory by means of material things. We must admit that they builded well, but God in His infinite wisdom ordained that these things shall not be permanent. Hence, every force in nature is combined to reduce them to their original state and to scatter their parts broadcast to the elements. This story of tombs and monuments to men is beautifully told by Herbert Coleman in the following verse:

"In the dim forgotten ages in the valley of the Nile,
The pyramids were builded by the Pharaohs in their pride.
And, that each, in single splendor, might have his funeral pile,
Their slaves in thousands laboured and their slaves in thousands died.
When Athens grown to greatness through the valor of her sons,
Recalled the patron goddess she had built her hopes upon,
Unto Athens, fairest of all the shining ones,
She reared that shrine of beauty, the matchless Parthenon.
When with the passing centuries, the Roman legions came
And welded half a world in one, and ruled it in their might,
They built the roads which to this day retain their ancient name,
Though Caesar and his legions have passed into the night.

*Memorial Address, State Medical Association of Texas, Fort Worth, May 8, 1923.

In that great age of faith, when Heaven seemed
nearer earth than now,
Men builded great cathedrals and erected them with
care,
And in their dim and shadowed aisles, we modern
folk may bow,
Beneath the soaring arches and the figured saints
at prayer,
A monument, a temple, a road, a house of God,
How build we, brethren, today?
In nobler form, we trust,
Than all the mighty builders who
The paths of earth have trod,
Whose wondrous works must soon or later be min-
gled with the dust.
A monument of kindly deeds,
A temple of good-will,
A road of hope for youthful feet
Just entering on life's race.
A house of God built fair and broad upon the
heavenly hill,
Where all mankind, in God's good time
May find the Father's face."

Consider for a moment another type of monument, left by men of superior intellect, men who by their close application of knowledge, sought in wisdom to do something definite for humanity—to leave the world of science better than they found it; whose unselfish lives were devoted to something worth while; men who, wholly unconscious of self-interest in their work, have accomplished the most for themselves and in so doing have helped the work of science to progress. They have builded to their own memory monuments of accomplishments. They have erected a lighthouse of knowledge in the breakers of disease and in the wilderness of pestilence, the radiance of which shines, broadcast over all the enlightened world.

Every doctor, however private his station, however humble his place in the profession, adds luster to the radiance of those lights in proportion to his qualifications and his loyalty to the profession—and to be loyal one must be qualified.

Instead of mouldering into dust like the material monument of the Pharaohs, these temples of knowledge, of intelligence and of science erected by those master minds which have gone before, are year by year increasing in number. New facts are being discovered; plagues are being mastered, and age-old problems are being conquered by science. Not only are the lighthouses of science growing taller, but their beams of light are reaching further into the secret vaults of nature and robbing disease of its mystery. And every doctor who will may share in this honor and achievement. Those whose memory we are now assembled to commemorate, have thrown to you the torch. Be it yours to hold it high; may you not break faith with those who died.

In the tombs of the Egyptian rulers, stone upon stone compose the structures. In this intellectual shaft of science, each doctor has his part and we contribute to its grandeur, to its fame an to its everlasting endurance in proportion to our unselfish sacrifices.

It is given to but few to evolve and teach some wonderful philosophy of life as did Confucius thousands of years ago, but the pages of history serve to keep fresh the memory of those who do, and their contribution to society perpetuates, not only their names but their personal character as well.

Long after the World War heroes are forgotten as individual soldiers and men, the name of Major McClure, the doctor from Canada who, under the awful circumstances which surrounded him at the time, forgetting self and in a spirit of love and devotion to his family, of service and patriotism to his country, and of loyalty to his fellow soldiers, wrote that masterpiece, that did more to stir the souls of men to action than anything else said or written during the war:

"In Flanders field the poppies grow
Between the crosses row on row."

The author of that poem will live in the minds and hearts of men long after our heroes are forgotten and their monuments molded into dust.

The towering monument of science left by medical men will be perpetuated as long as educated people inhabit any portion of the earth. It is sad to lose a young man in the day of his usefulness. It is a pity to see one of these cut off in the race of life before the contest has fairly begun, especially one who is well qualified to render full measure of helpfulness to mankind; but the death of this young man is not the real tragedy: The real tragedy, my fiends, is the loss of his service to the community and to society.

Someone has said that the essence of life is service to humanity. Another has said that service is the act of doing voluntarily and without thought of gain, some kindly deed, when such act or expression was most needed. But service is a commodity, something that can be bought and paid for in the open market; while loyalty, like virtue and honor, has no price. It cannot be purchased; money will not buy, nor gold pay for loyalty. It is the human pinnacle of fidelity and faithful allegiance to duty in the cause that one represents. And those whose names were read to you tonight, sacrificed their lives in loyalty to their profession.

READ THE TRANSACTIONS

THE WORK OF THE AMERICAN MEDICAL ASSOCIATION.*

BY

OSCAR DOWLING, M. D.,

Chairman, Board of Trustees of the American Medical Association, and Health Commissioner, State of Louisiana.

NEW ORLEANS, LA.

As the official representative of the American Medical Association, I bring to you from the Board of Trustees and, through them, from the American Medical Association, greetings and good wishes, with the hope that your Association under the leadership of your efficient Secretary and his co-workers may soon have a 100 per cent membership among the eligible physicians of your great State.

The Association congratulates you on the perfection of your Medical Practice Act by the Legislature now in session, and rejoices with you in the fact that only those who are worthy and well qualified may practice the art of healing in Texas. Your efforts are further commended, because of the fact that you have good prospects for an amendment to the Act creating your Health Department. It is hoped that this effort will prove successful, so that your State Health Department may function in keeping with

THE HOME OF THE A. M. A.

the wonderful progress you have made in material and professional affairs.

You will remember that the American Medical Association has established, through the Board of Trustees, with the approval of the House of Delegates, the Bureau of Legal Medicine and Legislation, under the direction of Dr. W. C. Woodward, former Commissioner of Health for Washington, and later from Boston, who is not only a qualified health officer, but is versed in law, holding a degree from a law school. Dr. Woodward, representing the American Medical Association, will gladly co-operate

COMPOSING ROOM.

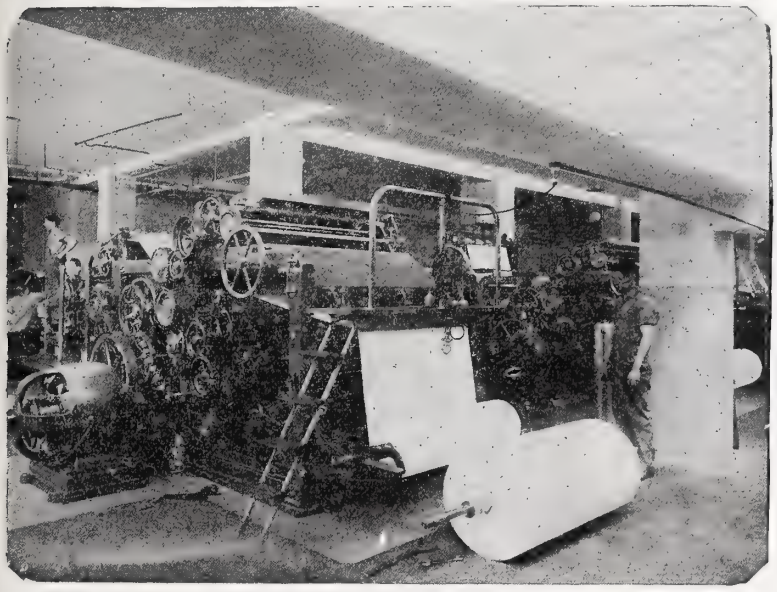
with you in your efforts to secure better laws, and will furnish pertinent information whenever available.

It is to be regretted that the Legislature does not seem disposed to increase the salary of your State Health Officer, to six thousand instead of three thousand. It is very difficult to secure a competent physician for such a small salary. I am reminded of the school teacher who went to the treasurer, who happened to be the cashier of the bank, to draw her pay. As he handed her a number (not many) of dirty bills, he apologized for paying her with insanitary money. She promptly replied, "Do not worry about that, no bacteria could live on my salary."

The American Medical Association is the oldest organization planned to represent the profession of an entire country. The British Medical Association dates its origin, July 19, 1832, but that is the date of the organization at Worcester of the "Provincial Medical and Surgical Association," which gradually developed into the British Medical Association, which it became in 1856. In the United States, as early as 1835, the Faculty of Medicine of the College of Georgia urged through the press and correspondence, that a convention be held to consider uniform standards of education. In 1840, on motion of Dr. John McCall of Utica, the Medical Society of the State of New York adopted a resolution recommending a similar convention. In fact, from time to time resolutions looking toward the calling of such a convention appear to have been passed by several of the state medical

*An Address delivered before the State Medical Association of Texas, Fort Worth, May 9, 1923.

organizations. But these efforts were not followed up until Dr. N. S. Davis, then of Binghampton, New York, together with Drs. James McNaughton and Peter Van Buren, both of Albany, New York, were appointed a committee to carry into effect the following action of the Medical Society of the State of New York: "That a national convention from medical societies and colleges in the whole Union convene in the City of New York for the purpose of adopting some concerted action on the subject of medical education." Through the activities of this committee such a convention was convened on May 5, 1846. Sixteen of the then twenty-six states were represented and an organization was effected.

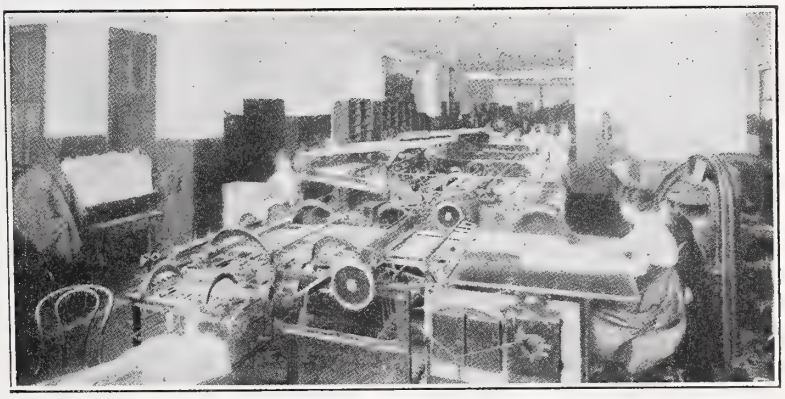


SOME OF THE BIG PRESSES.

The Board of Trustees of the American Medical Association consists of nine members, elected by the House of Delegates, three at each annual session, to serve for a term of three years. These trustees, under the laws of the State of Illinois, since the American Medical Association is incorporated under the laws of that State, are in fact directors of the corporation. In 1920, at the New Orleans Annual Session, the House of Delegates charged the Board of Trustees with the responsibility which the civil law placed on that body, and adopted as Article VII of the Constitution, the following:

"The Board of Trustees shall have charge of the property and financial affairs of the Association and shall perform such duties as are prescribed by law governing directors of corporations." The Constitution (of the American Medical Association specifically states, "The legislative powers of the Association reside in the House of Delegates. The House of Delegates shall transact all business of the Association not otherwise specifically provided for in this Constitution and By-Laws, and shall elect the general officers."

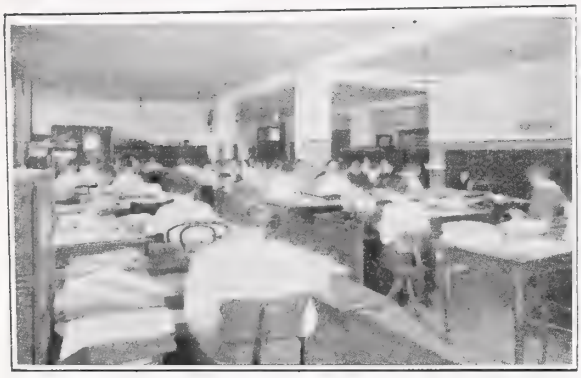
The voting membership of the House of Delegates is limited to 150. Provision is made that the Medical Departments of the Army and Navy, the United States Public Health Service and the Scientific Sections shall each be entitled to one delegate, the remainder to be apportioned among the constituent associations. The constituent associations are those state and territorial medical associations which are or which may hereafter be federated to form the American Medical Association. The component societies are those county and district medical societies contained within the territory of and chartered by their respective constituent associations. The members of the American Medical Association are the members in good standing of the constituent associations. These in turn are members in good standing of the component societies. Those members of the Association who, on the prescribed form, apply for Fellowship, and who subscribe to *The Journal* and pay their annual Fellowship dues for the current



FOLDING MACHINES.

year, are Fellows of the Scientific Assembly of the American Medical Association, as well as members of the organization. The Fellows are the supporting members, since those who are members only do not contribute to the financial support of the Association.

Our plan of organization is simple. It follows closely the principles of organization of the United States. Every member of the



YOUR PERSONAL RECORD.

organization, under ideal conditions, takes full part in all of the activities of the component county societies—the basic unit of the organization. These component county societies elect delegates in proportion to their membership and in accordance with the rules laid down by their respective state associations, and these represent the members in the legislative body—the House of Delegates of the constituent state associations. Each member of the organization is equally qualified and fully privileged to exercise his rights in voting in the component county societies, and any member when duly elected by his county society may serve in the House of Delegates of his state association. Moreover, the members of the organization are equally privileged to take part in the scientific work of the component county societies and of the constituent state associations. The House of Delegates of these constituent associations, in proportion to their membership, elect delegates to represent their members in the House of Delegates of the American Medical Association. Free choice in the selection of these delegates is permitted, with the one condition, namely, that those elected shall have been for at least the two preceding years Fellows of the Scientific Assembly, as well as members of their constituent state association.

Before closing I want to tell you of the presence in your city of a man who will co-operate in every way with the medical fraternity for the protection of the public health. I have just talked with Mr. D. D. Moore, late of New Orleans, who established the policy of eliminating from the *Times-Picayune*, of that city, all medical advertisements not approved by the State Board of Health. Since this was agreed upon, the State Board of Health has censored hundreds of advertisements, many of which were refused by the *Times-Picayune*. Mr. Moore, in due time, will give you the same co-operation through the *Fort Worth Record*. I suggest that you confer with him.

I have fifty-three slides to show you, so that you who are not familiar with the home of the Association, at 535 North Dearborn Street, Chicago, may have some idea of its scope, facilities and operation. You will observe pictures representing the original home, with the various improvements, and what it will be when the improvements now under way are complete. You will see pictures telling of the work that is done in the various departments, with special reference to the records of physicians as to birth, graduation, qualifications and incidents of interest. You will see the various publications issued, with special reference to the Chemical Laboratory, where all new official and non-official remedies, as well as many patent preparations, are examined and

CHEMICAL LABORATORY.

passed upon. After this comes the Propaganda Department, under Dr. A. J. Cramp, who is one of the best versed men in the country on remedies (so-called), men themselves and the affairs of men. Write him when you desire information, and tell your lay friends to write also.

Pictures of many of the past Presidents are among the slides. I regret that the picture of Dr. John A. Wyeth, with whom and under whom many of you studied, is not among these. Dr. Billings, many of you will remember. He is contending that we should keep the family physician (such as the majority of you happen to be), who can examine, diagnose and treat the patient

without passing him from physician to physician. All of these have been and are, leaders in their work. There is no need for my dwelling on them, as you know them. Lastly, we present you with the likenesses of the President and the President-Elect, both of whom hope to greet a large delegation from Texas, in San Francisco at the annual meeting, June 25. We bid you come.

The great work of the American Medical Association has been accomplished under the direction of Dr. George H. Simmons, with the able assistance of many others, chief of whom, you will recall, was the lamented Dr. J. N. McCormack, who visited your State a number of times in the interest of organized medicine, in the early part of this century, when the reorganization was being effected. When Dr. Simmons, a man of vision and initiative, came to *The Journal* as Secretary-Editor, in 1899, the subscription list had grown from 4,551 in 1895, to 10,959 in 1899, and since that time it has increased from year to year to 79,669 at the close of 1922, and it is still growing. Every physician in Texas should be a subscriber.

Every member of the State Medical Association of Texas has an interest in this magnificent building, with its wonderful equipment. The printing department is the equal of any to be found in the country with a machine, the largest of its kind in the world, for gathering the different sections of *The Journal*, stitching and binding, including the placing and gluing of the cover, a great saver of time and money. It would be worth while to visit and see this home of yours in Chicago. Let me repeat, every member of the State Medical Association of Texas is an equal owner in the stock of this great institution; but it is desired to have you more actively associated by becoming Fellows, for the maintenance of the organization.

As you know, the American Medical Association has made an innovation in the publication of a magazine, *Hygeia*, which will carry to the laity in attractive terms, information that is needed and will be appreciated. The initial numbers of this magazine are doubtless already on your desks, and you do not need from me any further commendation. The excellence of the publication speaks for itself.

It is a pleasure and privilege to be here. One gets inspiration from an Association like yours, with such smooth working machinery and directed by men who have no superiors in the handling of state organizations.

Texas does things easily. This is demonstrated by your magnificent cities, well paved and clean; your large buildings, and your facilities for transportation by highways and railroads. Your Association is further evidence of your spirit of co-operation and progress.

The Board of Trustees of the American Medical Association feels towards your Association as a father feels towards his child. We wish you every success, and ask your co-operation in furthering the interests of the great national organization of which you are a part.

TRANSACTIONS

FIFTY-SEVENTH ANNUAL SESSION OF THE STATE MEDICAL ASSOCIATION OF TEXAS.

FORT WORTH, MAY 8, 9, AND 10, 1923.

First Day, Tuesday, May 8, 1923

MINUTES OF THE OPENING EXERCISES AND FIRST GENERAL SESSION.

The Fifty-seventh Annual Session of the State Medical Association of Texas was called to order at 10:30 a. m., in the Crystal Ballroom, Texas Hotel, Fort Worth, Texas, May 8, 1923, by Dr. L. A. Suggs, of Fort Worth, Chairman of the Arrangements Committee.

Dr. Suggs: We are here for the opening of the fifty-seventh session of the Texas State Medical Association. Dr. E. M. Waits, President of the Texas Christian University, will deliver the invocation.

Invocation.

We come to Thee, this morning, as the Father of Lights, in whom there is no variableness or shadow that is cast by turning, and from whom cometh every good and perfect gift. We thank Thee for this day with its brightness, its beauty and its blessing and of the opportunities of service; for the coming together from the great Southwest of this splendid group of men who are being sent out for humanity's sake. We thank Thee for their presence, and we pray Thee for divine direction in all of their deliberation. Today we would say, "Let not the wise man glory in his wisdom nor the strong man glory in his strength, nor the rich man glory in his riches, but him that glorieth, glory in this: that he knoweth Thee, that Thou art the God of righteousness, of judgment, of justice and of loving kindness." In Thee shall we rejoice, sayeth the Lord of Hosts. We pray Thy blessings upon us this morning, in the name of the Christ who has loved us and has given Himself for us. Amen.

Dr. Suggs: You will please remain standing while we sing America under the direction of Mr. Sam Losh.

Dr. Suggs: Ladies and Gentlemen, I want to introduce to you the best mayor of the best town you have seen since you left home, who will address you on behalf of the City of Fort Worth and the Chamber of Commerce.

Address of Mayor Cockrell.

Mayor E. R. Cockrell: I believe that this city, as any other Texas city, hardly needs to tell a lot of Texans of any group that they are glad to have them, and I think that the gates of any city are open probably a little bit wider than usual to this great healing profession. We have a feeling that it is a great humanitarian profession, and my experience with it has made me feel over and over that that is true.

There is no group of men who respond more quickly to human needs along any line, charitable, health, philanthropic or recreational. And when I say that, I am expressing the common concensus of opinion. I remember on one occasion I was in a crowded district in New York City. A man hesitated as to which way he would go. Evidently he was a physician. Four or five little waifs ran over to offer their services. I have wondered who of any other profession, might have hesitated there on the sidewalk as that doctor did, and have those waifs run out voluntarily, happily, desiring to be of service to one whom they knew was also desiring to be of service to somebody.

We are proud of Texas and of your city, wherever you may come from. We are proud of the way Texas cities are growing; of the community interest that is being evidenced in the cities and towns and villages of this State. I remember when the small village didn't pay much attention to its sidewalks or its alleys or to the cleanliness of its streets, and I have seen them change from that attitude to one of pride in cleanliness and civic improvements. I am sure that no one has had a larger voice in bringing about those conditions than you. I remember a Dr. Ellis in a little town by the name Troy—some of you may know him. I remember how hard he worked to clean up the town—get the weeds cut down, eradicate the mosquitoes, and every other thing that would help to put him out of business. He was quite successful, Troy grew in healthiness.

I trust you will look over Fort Worth. It is a city that is taking pride in clean streets and clean alleys, and in fighting mosquitoes. A group of workers is starting this morning with oil, a truck and sprays, fighting mosquitoes. If I were to go to your city, I would like for your mayor to tell me a little about that city, and I welcome you. I want to tell you about Fort Worth.

Fort Worth has led America, not once or twice, but over and over in the last two or three years, and before that, in its health record. This week, I believe, it is third in America so far as healthiness is concerned. It has been first, to our pride, on a number of occasions during the past year. If we were not a city that is reasonably clean so far as our alleys and streets and all of that is concerned, this condition would not be possible. We are watching our water supply in a way that we never have watched it before. We have trained chemists who make tests every day, guarding the health of our people. We have a free garbage system, established a little over two years ago. We are now extending that service to our suburbs.

Some of you who have not been here for a few years will be proud, as Texans, of this hotel, part evidence of the faith Fort Worth has in itself. This hotel was built by Fort Worth enterprise and Fort Worth money, at a time when many cities were hesitating in their growth and development. The bank building just across the way is another evidence of the faith of Fort Worth citizens in their city. The Star-Telegram, the Berney Anderson building and many others —I just touch on these—are evidence of that faith. This city has doubled its population in the last seven years. She has jumped from a hundred and six thousand three years ago, to about a hundred and sixty thousand at this time, and she is growing today more rapidly than ever before. If you will go into the suburbs, into the south side, Arlington Heights, Riverside, Polytechnic, wherever you will, you will see numerous homes going up. Fort Worth is proud of her homes, her colleges, her churches, her schools and her business enterprises.

I want to welcome you to the city that in a cotton state is the cotton center of the State, the largest inland cotton shipping center of America. This is the largest grain shipping center of the Southwest. This is the railroad center of Texas and the Southwest. If there are some here from Houston, they may disagree with me. Houston says she leads Fort Worth on that railroad proposition. She has more advantages, the advantage of the waterway as well as the railway—the terminal thought, but as an inland railroad center, Tarrant county, according to recent Federal reports, is leading in Texas. Fort Worth, with something over three hundred factories and growing, is a manufacturing city. She is also the cattle shipping center of Texas. When I say these things, I am pointing to fundamental interests. As Texas grows in power along these lines, Fort Worth must grow.

I say again that Fort Worth is a Texas city, purely Texan. She has grown with Texas interests from the time she was an Indian frontier settlement, when Texas was an Indian frontier territory. When Texas became a cattle country, Fort Worth led as a cattle center. Then Texas became a plantation country and Fort Worth, with her cotton and grain interests, ran true to form. Then came the great transportation movement of Texas, and Fort Worth drew to herself and to this center the railroads of the State. The manufacturing era is here and Fort Worth is running still as she has, true to Texas interests.

I am delighted to tell you these things of this splendid, strong, growing Texas City. I am proud of Texas and Texans, and of other Texas cities, proud to see them develop as they are developing, as all Texas is developing. A few years ago we told our friends from the North or East of our bigness. We are still proud of our bigness, but we are starting to tell them that we are fifth in population, and that in Congress we speak with a tremendous voice, and we are going to speak with larger voice; that we are not only big in miles, but powerful in wealth.

Fort Worth is glad to have you here because you are Texans, and glad to have you here because of the honorable, helpful profession that you represent. In representing the City of Fort Worth and the Chamber of Commerce, I have a double honor today. I was told that I would save time—I think they knew that I was inclined to take up too much time, if I would "just do both," and I am personally and officially delighted to say for our Chamber of Commerce that it is showing leadership, aggressiveness and teamwork, and that they, too, are delighted to have you here.

If I may officially represent Fort Worth, let me say to you who love human life, who have in your hearts the thought of childhood, motherhood and parenthood, and who revere the real fundamentals that from Fort Worth's heart is with you; she is glad to have you here. After this meeting, as you go back to your homes, wherever they may be, in speaking of Fort Worth, give it the reputation that a Texas city ought to have. Remember its warm southern heart and aggressive spirit. I do not know any two things that are better combined than a warm heart and an aggressive spirit. I believe that Fort Worth has them and that, as you go back to your homes, you will not only take the best from Fort Worth with you but that you will also leave something of the warmth of your Southern and Western hearts with us. We are glad to have you.

Dr. Suggs: It is now my pleasure to introduce to you the best president of the best county medical society in Texas, Dr. W. R. Thompson, of the Tarrant County Medical Society.

ADDRESS OF DR. W. R. THOMPSON.

It occurs to me that I have a useless duty to perform. We do not consider it necessary to welcome the members of the State Medical Association to Fort

Worth. I say this because the State Association has so unusually honored Fort Worth from the day of its reorganization some twenty years ago. The first trustee was from Fort Worth. That trustee is still a member of the board. We feel that this is the home of the State Association. It comes to us occasionally, and we stand with open arms to receive it. Our one and main object is to assure its members of our high esteem and desire to entertain them. We hope ere long that they will give us another opportunity of welcoming them.

Dr. Suggs: Ladies and Gentlemen: I want to introduce the State Secretary, the editor of the STATE MEDICAL JOURNAL. We feel that we have the best secretary and the best editor of the best State Medical Journal in the United States—Col. Holman Taylor.

The Secretary: It is customary to select one of the most distinguished members of any group to introduce the speaker. I feel, in view of that fact, that some explanation is necessary—if not apology. I have long ceased making apologies to this body, at any rate. I do sometimes explain; it is frequently necessary that I do so.

It is alleged, and for that reason I have been extended this privilege, that the distinguished speaker and I grew up and began our respective careers in the same community. That is true, as far as it goes, but please understand that we were not boys together. The Governor was a prominent lawyer in my community when I was growing up. I feel that you are entitled to that explanation. It has also been said, and for that reason I am partly attributing the honors of this occasion, so far as I am concerned, that I have had some legislative experience with the Governor. Please understand that so far as I know there is no political significance in the presence of Governor Davidson here today. If he is a candidate or intends to be a candidate, for anything, I don't know it and I never heard of it. I feel that you are entitled to know, however, that the gentleman, occupying the high position in the legislative bodies of this country that he does, has no hesitation in saying that he believes in high standards and high ideals as they apply to professional life, more particularly that of medicine.

Now, without taking any more of the time of this occasion, permit me to introduce to you the honor guest, a gentleman upon whom you may safely rely in any problem requiring intelligent and conscientious attention relating to medicine or, so far as I know, any other of the live problems of this day. Ladies and Gentlemen: Governor Davidson.

ADDRESS OF LIEUT. GOV. DAVIDSON.

(Published in the Original Article Section of this number of the JOURNAL.)

Dr. Suggs: The ladies are to meet in front of this hotel at twelve-thirty for the progressive luncheon. Tomorrow, at the same time, they will meet at the same place for a drive. Thursday, at one o'clock, they meet at the Ninth Street entrance of the hotel for a trip to Texas Christian University and Texas Woman's College. Street cars will be provided. Tomorrow night the President's Address will be delivered at the Majestic Theatre. You will please get your tickets for the theatre party at the information booth, by the registration booth. The regular bill will be shown at the Majestic.

I have the pleasure, now, of introducing the man who has the State Medical Association on his heart, I guess, as almost no other man; who is the head of his profession; who loves his doctors; who loves his friends, and is in turn loved by his friends; one of the best all around citizens, physicians, surgeons and doctors, in the State of Texas, the President, Dr. Joe Becton.

The President: Friends, don't hurry off, I will be here only a few minutes, and I may say something. (Laughter.) You might miss a very great deal. I am especially glad to see the nurses out. (Applause.) You know, for a nurse to live she must have a necessary evil—the doctor. I would like to speak for an hour and a half or two hours, but I won't do it. (Laughter.) Following, as I do, such illustrious speakers—that Mayor! Didn't he recommend his town? Oh, didn't he! (Laughter and applause.) And we believe him; we think it is all true. The reason I didn't move to Fort Worth twenty-five years ago, was, I was kin to half the folks in town, and I had to make a living. (Laughter and applause.) That is what kept me out of Fort Worth.

Now, friends, if I were to attempt to make an address, especially following this learned jurist, this most honorable judge, you might feel like the old lady who said of the little boy who had been put up to make a speech—"Son, don't you cry; you aren't to blame. That fellow that put you up, though, he ought to be shot."

Now, friends, I want to thank you in the name of the splendid physicians assembled here today, and for those who could not get here. Friends, in this life we are like ships that pass in the night—we meet, we talk, we greet and go on. As Emerson says, we are part and parcel of all that we come in contact with. And I want to say to you in the name of the profession, that in after years, when memory and retrospection brings back all that is happy and pleasing to us, this will be a bright dream—Fort Worth, sunny Fort Worth. I thank you in the name of the Texas State Medical Association.

I again want to thank the Governor for his splendid address. We have tried to get laws enacted for the protection of the public, not for ourselves—the doctor doesn't need a law. Not one law is there to help the doctor collect his bill; not one law to make people pay him. Every law he has sought is for your good and your happiness and the happiness of your children and friends. It comes to us as a blessing when somebody will get up and—and not call our legislative efforts "another fight of the doctors." The laity has been inclined to say, "A fight of the doctors," when the fight—and it has often been a real fight, was for you and not for himself.

The State Association is open for business. We are pleased to have with us today a representative from Oklahoma, that splendid State, that great State that borrowed most all the brains it has from Texas. (Laughter.) Dr. W. H. Bailey of Oklahoma City, Fraternal Delegate from Oklahoma to the Texas State Medical Association.

ADDRESS OF DR. W. H. BAILEY.

I am sure that I am a little more certain than my good friend Joe Becton was, when he got up; I am quite sure that I am not going to make a speech. However, I do wish to bring to you greetings from Oklahoma, and I want to compliment you on your wonderful enthusiasm. I have been wanting to ask his Honor, the Mayor, just when he thought Texas would annex the rest of the United States. (Laughter.) When I came to your city yesterday, one day before the meeting was to open, and found enough members already here to make a good sized medical meeting, I couldn't help but wonder, "What is there back of the enthusiasm that will get members to a convention one day in advance." And I wouldn't be surprised if they leave one day after closing. But that is the spirit that makes for good medicine. That is the spirit that wins in any enterprise.

Again I wish to thank you for the hospitality that is being shown me, and the other fraternal delegates, and I give you an open invitation to visit us in Oklahoma at any time, and especially during our State

Medical Meeting, beginning on the fifteenth of this month—next week. I thank you. (Applause.)

The President: It is my pleasure to present to you, for a two-minute address, Dr. M. M. Morrison of Denison, President of the North Texas District Medical Association.

ADDRESS OF DR. M. M. MORRISON.

It ordinarily might be expressed as a pleasure for me, as president of the North Texas Medical Association, the greatest district association, I presume, in the United States (laughter)—the greatest in numbers, the greatest in capacity, the greatest in enthusiasm and the greatest in the amount of adjustment propaganda (laughter), to greet you. We hope you will have an enjoyable time; that it will redound to your benefit and ours—but really, we don't want you to stay. Oh, you can stay a few days, but we would rather you would scatter off again, because we are very well supplied with doctors now. You know there is an old adage, "The more the merrier," but it is equally true that "The fewer, the better share." (Laughter.)

But really, Ladies and Gentlemen, we are not only glad you are here, but we would have been not only disappointed, but terribly, terribly disappointed if you hadn't come. We always are after you and we are jealous of those who try to get you away from us. We think this is the garden spot of the earth; in fact, we know it is, and we not only have plenty of physicians, and plenty of patients, but we have plenty of all kinds of things—almost! I welcome you and I hope you will enjoy your visit.

The President: Mr. Secretary, is there any business to come before us now?

The Secretary: I have two resolutions that the Council on Legislation and Public Instruction requested that I bring before this general session for discussion and possibly for adoption. With your permission I will read them:

RESOLUTION FAVORING REORGANIZATION OF THE STATE HEALTH DEPARTMENT.

Whereas, There has been introduced in the present called session of the Legislature, at the instance of the Governor of the State of Texas, a measure (S. B. 61) designed to reorganize the Health Department, embracing as its principal feature the appointment of a Board of Health with an overlapping membership, the appointment by the Board of Health of a State Health Officer and a necessary increase in salaries, and

Whereas, The present and preceding administrations have been constantly confronted with the problem of maintaining an adequate Health Department, therefore be it

Resolved, That the State Medical Association at this General Session, most heartily endorse this effort; that this fact be communicated to the Legislature and to the press, and that these resolutions take their normal course otherwise.

The President: You have heard the reading of the resolution.

Upon motion of Dr. Walter Shropshire of Yoakum, seconded by Dr. I. C. Chase of Fort Worth, the resolution was unanimously adopted.

RESOLUTION AGAINST LICENSING CHIROPRACTORS.

Whereas, There has been introduced in the present called session of the Legislature a bill providing for the licensing of chiropractors to practice medicine on a sub-standard basis; and

Whereas, The Medical Practice Act of this State, as amended by the recently concluded regular session of the Legislature, provides for a single standard of educational requirement for all who would practice medicine or any part of it, and

Whereas, The subject of licensing chiropractors was thoroughly debated in both branches of the Legislature at that time, and the decision reached by a large majority that any exemption of this sort would be inimical to the public welfare, therefore be it

Resolved, That the State Medical Association of Texas, in regular and General Session assembled, go on record as emphatically condemning such discriminatory legislation, and in doing so, calls attention to the fact that the Constitution of the State of Texas plainly requires that in the framing of laws governing the practice of medicine, no discrimination shall be allowed as between so-called schools of medicine, and be it further

Resolved, That this action be communicated to the Legislature and to the public press, and that it otherwise take the normal course of business of the Association.

The President: You have heard the resolution.

Upon motion of Dr. W. R. Thompson of Fort Worth, seconded by Dr. H. W. Cummings of Hearne, the resolutions were adopted.

The Secretary: In this connection, permit me to read a telegram just received:

"Board of Health bill reported favorably by House Committee. Chiro bill referred to sub-committee. Sub-committee to report to general committee Tuesday night. Motion to refer to sub-committee made by our friends."

The President: Dr. H. E. Stout, President of Texas Christian University, will pronounce the benediction.

BENEDICTION.

Oh, Thou, Who art the Great Physician, we pray that Thou wilt help and assist these men who work with Thee for the blessing of humanity. Dismiss us with Thy blessing on us all, we ask in Christ's name. Amen.

Adjournment was thereupon taken.

MINUTES OF THE HOUSE OF DELEGATES.

AFTERNOON, FIRST DAY, MAY 8.

The House of Delegates was called to order by President Dr. Joe Becton of Greenville, at 2 p. m., in the ball room of the University Club.

President Becton: Gentlemen, I expect hearty cooperation. If you will assist me, we will expedite matters and get through. Please do not take up time wrangling and arguing over irrelevant points. I have seen this House waste hours with two or three members arguing about some little point that amounted to nothing. So, please confine your remarks to the subject under discussion, and also to the point. If you will do that, we can get through and get away.

Now, as I have said before, you have no idea how deeply grateful I am to this organization, which has done for me all it can ever do for any one. I would rather be President of the State Medical Association of Texas than the Governor of Texas. God is my witness. (Applause.) Instead of a feeling of pride, I feel a sense of humility—a sense of duty. As I have often remarked to Dr. Taylor, our very efficient secretary—when he would say, "Who are your friends?" I haven't anything but friends. With the aid of Dr. Taylor and two or three other members, I have endeavored to conduct the business of this Association along honored, clean business lines, without fear or favor. If we haven't done our full duty, it has been a mistake of the head and not of the heart. I feel deeply my obligation to Dr. Taylor, because a president coming in is necessarily ignorant of many things, especially if he hasn't been in touch with the policies of the Association. Now, gentlemen, let's not kill time; let's work and get done and get out. (Applause.)

The roll was called by the Secretary, who announced that there were eighty members present.

The Secretary: Mr. President, I called the roll as checked by your Reference Committee on credentials. A motion is in order, I think, to seat those whose names were called, and proceed to business.

On motion of Dr. F. P. Miller of El Paso, seconded by Dr. M. F. Bledsoe of Port Arthur, the members of the House of Delegates who had responded to their names were declared seated.

The President: The next will be the reading of the minutes.

The Secretary: Mr. President, the minutes of the previous meetings of this House of Delegates were published in the June JOURNAL, 1922. I am ready to read them, if it is the desire of the House that I do so.

On motion of Dr. J. D. Osborn of Cleburne, seconded by Dr. J. N. White of Texarkana, the minutes of the previous meetings of the House of Delegates, as published in the June JOURNAL, 1922, were declared adopted.

The Secretary: The Reference Committees appointed by the President, are as follows:

REFERENCE COMMITTEES.

Reference Committee on Credentials—Dr. J. B. Ramsey, Cherokee, Chairman; Drs. W. C. Tenery, Ellis; V. R. Hurst, Gregg; E. F. Ham, Limestone, and A. E. Sweatland, Angelina.

Reference Committee on Reports of Officers and Committees—Dr. C. E. Durham, Hamilton, Chairman; Drs. Thomas Dorbant, Bexar; H. W. Cummings, Robertson; R. Y. Lacy, Camp, and J. T. Horton, Hardeman.

Reference Committee on Resolutions and Memorials—Dr. A. A. Ross, Caldwell, Chairman; Drs. J. H. McCracken, Palo Pinto; A. W. Acheson, Grayson; A. C. DeLong, Tom Green, and R. D. Wilson, Harris.

Reference Committee on Finance—Dr. C. P. Yeager, Kleberg, Chairman; Drs. J. N. White, Bowie; C. M. Covington, Montgomery; E. M. Fowler, Kaufman, and W. F. Black, Wood.

Reference Committee on Amendments to Constitution and By-Laws—Dr. Winfred Wilson, Hall, Chairman; Drs. J. H. Lander, Victoria-Calhoun; F. W. Lawson, Orange; Geo. D. Lain, Denton, and F. P. Miller.

Reference Committee on Scientific Work—Dr. J. M. Frazier, Bell, Chairman; Drs. C. R. Hannah, Dallas; F. Paschal, Bexar; J. D. Osborn, Johnson, and J. D. Nelson, San Saba.

The President: We will especially appreciate it if you will turn in your reports at the earliest possible moment. It will save much time and labor and will expedite matters very, very much. I will ask you to get together as soon as you can. I will ask the chairmen to be chairmen in all the word means. If at any time you want me, or Dr. Taylor, or Dr. Scott, or any of the Councilors or anybody, call us in. Spend some time and energy and thought on your report before you make it.

Now, gentlemen, it is my idea that if the President has anything to say at this time he should put it in the form of a message. I have a message here, some of it is in type and some of it is not. I was afraid my secretary would not print some of it.

MESSAGE OF THE PRESIDENT.

The custom of addressing the House of Delegates has not been observed by the last few presidents. I consider that the retiring president should, if he has anything to say to the House of Delegates, put it in writing and make it a matter of permanent record. Therefore, you will pardon me if I take a few minutes of your valuable time in some general observations.

Let me begin by urging upon you, and each of you, that if the business affairs of this great organization of ours, and the matter of its permanent policy, are to be properly attended to in the short time at our disposal, it will be necessary for each of us to practically forswear the pleasures of the meeting and the scientific profits of the sections. There is not time for us to partake of these advantages and at the same time give the affairs of the House of Delegates that study which will enable us to act intelligibly and to the best interests of the medical profession of this State, which it is our bounden duty to do.

The reports, at least of the most important committees, have been handed you in pamphlet form. They may or may not be read, in accordance with the desires of this House of Delegates. If you will read these reports carefully, in the quietude of your rooms, perhaps it will be as well as if they were read in detail here—even better than when done so under the usually existing circumstances. However, if you are not going to do this, I feel that we should take the time to read them in detail, here and now. Otherwise, we cannot understand the situations which we must confront and the problems which we must discuss. At any rate, I feel that some one should give a brief synopsis of each report, as a matter of interest and in order to point to the important features included.

These reports, and others made at this time, will be referred to the usual reference committees. These committees have been carefully selected, with the personal predilections of each in mind. In other words, those who are believed to have an interest in the affairs to be considered by certain committees, have been, as far as possible, placed on these committees. I have been somewhat handicapped in selecting these committees by the fact that our list of delegates, at least those certain to attend the meeting, is not complete. However, I have done the best I could, with the advice of those who are in a position to help. These committees are urged to at once take under consideration the problems they are to solve for this House of Delegates. They should hold meetings and discuss these matters. Too frequently committees content themselves with getting together in some corner, somewhere, and then deciding to leave it all to the chairman, or some one chosen for that purpose, after very immature deliberation. The opinion of the committee, or the officer making the report, is too frequently taken for granted as the best policy for action. It is admitted that this is generally true, and it should be true, in view of the fact that these committees or officers have been studying these problems for a year—or more. However, the purpose of the reference committee is to bring new thought into the problem. Except for that, there would be no need of reference committees. The House of Delegates could do its own concluding. The committees can thresh out arguments, and save the House of Delegates much discussion by briefly pointing out the reasons for and the reasons against any particular recommendation or conclusion. Our whole system of government depends on the thoroughness with which these committees do their work, and the earnestness with which this House of Delegates enters into these considerations.

Among the most important functions of our annual sessions, is the opportunity given each day for the whole membership to get together and consider any business proper to come before the general body. Because of the custom of assigning certain papers and addresses to the general session, we have perhaps lost sight of their main purpose. A program is made up in order to prevent the waste of the time

necessary to assemble and hold a general session. It is recognized that rarely will there be any business to come before these meetings, and the opportunity is taken advantage of to present prepared discussions of questions of general interest. It is to be hoped that each member of the House of Delegates will consider himself a committee of one to see to it that our general sessions are attended generously, and are promptly assembled.

Numerous recommendations will be made by the several officers and committees of the Association. I do not feel that I should go into any extended discussion of these recommendations at this time. I will, perhaps, have something to say on each problem, should debate develop. However, you will permit me an observation or two.

1. The Board of Councilors has been directed, and has in hand the matter of revising certain articles and sections of our Constitution and By-Laws. I have in mind several amendments that should be made, but have concluded that perhaps the wisest thing to do is to provide for a complete revision, under which conditions alone can we, in my opinion, provide that co-ordination which is necessary if an organization such as ours is to function properly. Patch-work constitutions and by-laws are rarely ever consistent throughout. As a general thing, when our members desire to know the law, they have to write to the councilor, and frequently when the law on any subject is expounded, it is found that it conflicts with another law. For instance, county societies are required to accept members from county societies in this or *any other* State, without additional cost. That works nicely so far as transfers within the State are concerned, because the State Secretary already has collected the per capita assessment, but when a transfer from outside of the State comes in, the matter of payment of the per capita tax confuses the situation no little. The State Secretary has no authority to accept a member of a county society as such, until he has received the per capita assessment. That means that the transferring member must pay the $5.00 or his county society must pay it for him. That is merely one instance.

When the State Medical Association was reorganized, in 1903, the constitution and by-laws for county societies proposed by the American Medical Association, were adopted by this Association for all county societies, and copies were furnished to each of them. The constitution and by-laws of the State Association do not make these by-laws the laws of the county societies. They have to be adopted by each county society on its own account, and they are subject to revision as the county societies see fit, so long as the revisions are not contrary to any of the laws of the parent body. There is no way to keep track of these provisions, and frequently it happens that the Board of Councilors is confused in its efforts to adjust questions that arise. Our State Association laws should contain more extensive references to the powers, prerogatives and functions of county societies, and no law of any county society should be such until it has received the expressed approval of the Board of Councilors. There are other problems too numerous to be discussed here, which is why I would advise a complete revision.

2. The Council on Legislation and Public Instruction covers in great detail the legislative work of the year, and the effort put forward to educate the public on the important matter of the practice of medicine. It is quite clear that unless our people are to be thoroughly informed on these problems, we will be continuously fighting an uphill fight for their protection in this particular. It is furthermore quite clear that unless the medical profession is itself informed, it cannot inform the public. The laws of the State Association make the Board of Councilors responsible for announcements to the public, and statements relating to the matter of policy. The Council on Legislation and Public Instruction has as perhaps its principal work, the matter of instructing the public. In order to avoid permanent conflict in purposes just here, the Board of Councilors and the Council on Legislation and Public Instruction, have co-operated closely in the matter of public instruction. It is recommended that these two bodies together work out, approve and promulgate a consistent, workable plan for handling this whole problem. There should be one highly intelligent and public-spirited member of each county society who makes these problems a specialty, and whose duty it shall be to instruct the members of his society and take the lead in lay publicity. He should be ex-officio a member of the Council on Legislation and Public Instruction. Through him the Board of Councilors should perfect the lay organizations it is my understanding they have been instructed to perfect, at their opportunity.

3. The post-graduate instruction being given yearly by the two teaching institutions in this State, with the co-operation and support of the Board of Councilors and the Committee on Medical Education, is of the utmost importance. Suitable steps should be taken to crowd these courses to the limit, and then to so extend them as to provide opportunity for the re-education of the medical profession from year to year, as may be required.

4. I am informed by our Council on Medical Defense that malpractice suits are growing more numerous and more hazardous. There seems to be a tendency in some quarters to discountenance the work of this Council, some of our members considering that the plan serves principally the specialists, who are able to take care of themselves. There is misapprehension in this particular. Statistics will show that the specialists do take care of themselves, and that they do not so much need this service as do the general practitioners, who are for the most part not suspicious of impending disaster. Further, statistics go to show that these suits are about equally divided between general practitioners and specialists. The cost of this service is exceedingly small, and its success has been to date 100 per cent.

5. The principal asset to the State Medical Association is its JOURNAL. The Board of Trustees is doing all it can to further the interests of this publication. The JOURNAL has been making a little better than expenses. Indeed, the effort of the Trustees is to put back into the JOURNAL the money coming in as the result of its endeavors. The Editor complains that there is constantly more copy demanding publication than there is space in which to give it out. Advertising is the answer. If our members would boost the advertising business of the JOURNAL, the JOURNAL would be able to render much better and more extensive service. This House of Delegates should take steps to popularize the JOURNAL. It is just what we make it.

Respectfuly submitted,

JOE BECTON, President.

The President: Gentlemen, I discussed all of this matter with Dr. Taylor, but I kept part of it out. This part I didn't discuss with him at all. He doesn't know this part is here. I want to commend to you our most capable and worthy Secretary. To my own certain, personal knowledge, he has been zealous in the extreme; has guarded the interests of this Association as much or more than his own. (Applause.) He has done wonderful and efficient work for the Medical Practice Act. Dr. Crow, President of the Texas State Board of Medical Examiners, says, "To his efforts is due the fact that we got the law through, more than any other one man." (Applause.) Gentlemen, I recommend that his salary be raised. The same amount of ability and energy would com-

mand twice the money from a business or a corporation. (Applause.) I think this House of Delegates should tender him a vote of thanks. (Applause.)

The report of the president was referred to the Reference Committee on Reports of Officers and Committees.

The Secretary: Mr. Chairman, I rise to make the suggestion that it be understood that the Reference Committees consider these respective problems as handled in the different reports. For instance, the President's Message—perhaps I could return his compliments in a measure by saying "most excellent message," has been referred to the Committee on Reports of Officers and Committees, but a considerable portion of it pertains to the matter of amending the constitution and by-laws; therefore, the Reference Committee on Amendments to the Constitution and By-Laws will consider that portion pertaining to that subject, and so forth. Each of the committees will have a copy of each report.

The Secretary: Dr. C. L. McClelland of Clovis, New Mexico, fraternal delegate from his State society, is in the house. It is out of order at this time, but I move you, sir, notwithstanding, that Dr. McClelland be introduced to this House now, in order that he may go his way and enjoy the meeting as he sees fit.

The motion was seconded, put and carried.

The President: I will appoint Dr. Scott to introduce Dr. McClelland.

Dr. A. C. Scott of Temple: Mr. President and Gentlemen: I take great pleasure in introducing to you one of the most prominent and active members of the Medical Society of the State of New Mexico, Dr. McClelland. (Applause.)

Dr. C. L. McClelland of Clovis, New Mexico: Mr. President, Gentlemen:

ADDRESS OF DR C. L. MCCLELLAND.

I don't expect to make a speech, but I do wish to tell you that I am very glad indeed to be back for a time among Texas doctors. I feel more at home here still than I do in the state of New Mexico. It is twenty years ago this May since I got my certificate one day and joined the State Medical Association the next. (Applause). I have been a very active member, working hard at the game ever since. I believe in organized medicine, I believe that we are sleeping at the switch in our little State. We are a new State, and we have not the organization that you have in the grand old State of Texas, but we are waking up.

Recently the Medical Society in Vernalillo County (Albuquerque), appointed a committee to investigate the Abrams theory of practice. They framed up and sent in perfectly healthy male guinea pig blood for diagnosis, signing ladies' names and giving a train of symptoms. The local papers told the story, with the headlines in bold print, "Tale of a Guinea Pig; Treatment of Abrams Is Exposed As a Fake After a Probe of Specific Cases," and "They found that the guinea pig had female trouble and cancer and tuberculosis." (Laughter). For the benefit of the legislative committee, I would like to present that. (Newspaper handed to secretary).

Now, gentlemen, your official route to San Francisco will take you through our little city. I will be very glad if you will think of us as you go through. You will have to stop off at Albuquerque for several hours. We are going to show you around the city while you are there, and we have arranged to hold our State society meeting just previous to the trip to San Francisco, so as to catch some information from you *en route*. I think you will enjoy a stay in Albuquerque. I am sure we will enjoy your visit.

The reason I know that New Mexico is going to develop into a grand State is because there are so many native, longhorn Texans moving over there. The next reason is, it is directly on the line from here to San Francisco, and you will become better acquainted with it and can appreciate better the doctors of New Mexico. We are working hard to build up organized medicine and put down graft. We are having the same fight that you had years ago and are still having. Our Legislature slipped a cog on us and gave our chiropractors certificates. So they have something to hang on the wall, which to the ordinary layman looks just as good as a diploma from the best college in the country. And during the last session of the Legislature, if it hadn't been for the hard work of a few of us, they would have actually given those fellows the privilege of dishing out narcotics. Those are things that we must constantly watch. We must appoint a legislative committee the same as you have, and go to Santa Fe every time the Legislature meets and keep on the job, and see that they don't slip anything else by us. I am glad, indeed, to be with you at this time. (Applause).

The President: We will have the report of the secretary.

REPORT OF THE SECRETARY

The Secretary: You will find the secretary's report, beginning on page 8 of the little pamphlet. I think it hardly necessary for me to read it just now. It is largely, of course, routine. I might say, however, that the paid up memberships on May 3, was 3,484, exactly fifty more than was paid up on that date the year before, and four below that of the previous year. Had I been able to delay this report one day longer, I would have been able to report the largest membership for this period of the term, in the history of the Association. I will say that much for the secretaries and the councilors.

The paid-up membership of the Association is, today (May 3), 3,484. This is exactly 50 more than were paid up on this same day last year, and 4 below that of the year before. The membership for the year 1922, strangely enough, was the same as that for 1921, namely, 3,676. This is the largest membership in the history of the Association.

The following county societies have not filed annual reports: Bosque, Ector-Midland-Martin-Howard, Fisher-Stonewall, Jim Wells, Menard-Kimble, Throckmorton and Wood, and no dues whatsoever have been received from Ector-Midland-Martin-Howard and Jim Wells societies.

Two county societies have now continued through two years with less than the required number of members (5), namely, Marion and Throckmorton. It is recommended that the charters of these two societies be forfeited.

In addition to these, the following county societies did not during 1922 accumulate the necessary number of members to maintain charter: Madison and Menard-Kimble.

The following county societies have so far not reported the required number of members: Llano (4), Marion (4), Menard-Kimble (1) and Throckmorton (2).

For the past two years, I am pleased to report, county society secretaries have been sending in dues rather more satisfactorily than ever before. The advantage of remitting the per capita assessments as fast as dues are received by the county society secretary, seems to be appreciated. The filing of annual reports, however, has not been quite so satisfactory, either as to date of filing or condition when filed. There are two reasons for failure to carry out requirements in this respect. First, the county society secretary frequently experiences difficulty in securing the payment of dues of a sufficient number

of his members to warrant the filing of his annual report as required by law (April 1), and he thinks to delay the matter until he can at least report a majority of his members as in good standing for the year. In the second place, secretaries are not always selected in view of their reputation for promptness and accuracy in attending to such details as this. The responsibility is, after all, that of the county society.

The State Secretary cannot possibly render satisfactory service in this respect unless county society secretaries carry out their part of the bargain. The office force does the best it can under the circumstances. As it happens, very seldom do mistakes occur, but when they do occur those who feel themselves offended are likely to exhibit some impatience toward us. However, while that is really a matter of importance, what we are really concerned about is whether those who are not reported as members in good standing on April 1, or earlier, as for that, are entitled to medical defense in malpractice suits based on incidents occurring since January 1, and until payment is actually made. The Council on Medical Defense is going to extend every possible advantage in favor of the member, in any instance of the sort, but it will be recognized that the Council is dealing with a trust fund and it must proceed in accordance with the plain provisions of the law. County society secretaries do not always realize that delay on their part may mean a great deal to some perfectly innocent member. There are cases on record where county society secretaries have collected money from their members and negligently failed to pay the per capita assessment, even in time for registration at the Annual Session. Occasionally the State Secretary finds it necessary to write to the councilor, in his inability to get replies to correspondence on important matters pertaining to the affairs of the Association. County societies should give more consideration to the personal qualifications of the secretaries they sometimes elect.

Since my last report there has been one change in the official family of the Association. Dr. C. C. Nash, for several years councilor in District No. 11, resigned because of removal into another district, and Dr. R. H. McLeod of Palestine, was appointed by President Dr. Becton to fill the vacancy thus created.

The only changes among the county societies during the year were as follows: Red River County Medical Society has been reorganized, after being out of commission for several years, and the Jack County Medical Society and the Young County Medical Society have been consolidated, under the designation Jack-Young County Medical Society.

Numerous inquiries have come to the State Secretary in regard to replacing county society charters. Nothing can be done in regard to this matter except to supply duplicate charters, which may be made in accordance with the original, as nearly as possible, bearing the seal and the signatures of such of the officials originally concerned who are still living, but dates and names must be known. The State Secretary will attempt to determine the date of organization of each county society in the State, at an early time, and establish a file on that subject. County societies desiring duplicate charters are requested to communicate with the Secretary at their convenience, giving all the data in their possession. It will be remembered that the great majority of the county medical societies in the State were organized, or reorganized, about the same time, in 1903 or 1904, and no special file relating to charters was at that time established. However, there is correspondence on file somewhere in the office which will help, no doubt. It is this correspondence that must be searched in the compilation of the contemplated file.

Numerous inquiries have during the year, and during all other years, as for that, come to the State Secretary in regard to the interpretation of medical ethics, the construction of certain of our laws, and such other matters as properly come within the jurisdiction of the Board of Councilors. My practice has been to refer these matters to the councilor, and at the same time, when I knew what the decision had been, communicate that decision in the form of personal opinion and not an official ruling. When this has been done the councilor has been promptly informed, and the inquirer plainly told that he should apply to the councilor for any official interpretation. It would be well if members would remember to first apply to their respective councilors for information of this character. The State Secretary has no objection to the work involved, but there is always the danger of conflict of authority. Of course, there are certain matters pertaining directly to the work of the office of the State Secretary, which the State Secretary is authorized to pass upon. It is an easy matter for an organization such as ours to get into the habit of referring everything to some one individual, who may have been either so accommodating or so well informed as to lead unconsciously into such practices. This is perhaps an expeditious thing, but it is disastrous in the long run. Any organ of the body which does not function, of necessity atrophies; and equally as important, any organ which functions inordinately hypertrophies. In either instance harm has been done. The atrophied organ will be of little service when demand is made upon it, and the hypertrophied organ will begin to fail when compensation begins to fail. The simile can be carried on still further. No great harm has come through an occasional period of rest, nor will any great harm arise from a reasonable period of overactivity. Our efforts should be to exercise the whole machine at the same time, each part performing its proper function. The parts which will not function properly should be removed and new parts substituted.

Respectfully submitted,

HOLMAN TAYLOR, Secretary.

Referred to the Reference Committee on Reports of Officers and Committees.

The President: The next is the report of the treasurer.

The Secretary: Mr. President, the treasurer asked me to call attention to the fact that his report will be found on page eleven of the little booklet. It is not necessary to read it, and he has asked me to submit it for him.

TREASURER'S REPORT

I would respectfully represent that there is in the Treasury of the Association as of April 30, 1923, in cash the sum of $38,130.42, of which $37,964.42 is on deposit with the First National Bank of Greenville, Texas, and $166.00 in the First National Bank of Fort Worth, Texas, temporarily. There is also on hand $15,250.00 in Liberty Bonds, of which $10,250.00 will mature during the current month.

The total cash receipts from the Secretary for the year were $31,414.06, which with $2,363.51 received for interest makes a total of $33,777.57. The total disbursements for the year were $29,770.00, and the increase in the cash balance over the preceding year $4,007.57.

The depositary, the First National Bank of Greenville, Texas, has expressed the wish to continue the account of the Association for another year on the same terms as heretofore.

Respectfully submitted,

K. H. BEALL, Treasurer.

Referred to the Reference Committee on Finance.

The President: Report of the Board of Trustees, Dr. John T. Moore is chairman.

Dr. John T. Moore of Houston: It is not my intention to read all of this report. I want to emphasize some of it, however, by putting into it some of our feelings.

You recall that in our last year's report we laid down the principle that we ought to help the people only when they ask for help; that we ought to properly protect every interest that the medical profession has at stake, but that as an organized body we ought to be extremely careful in spending our money. You who heard the Lieutenant Governor's speech today, heard him ask, "Am I my brother's keeper?" Are we, as professional men, responsible for the health of the people as their advisers? Should we, regardless of whether they ask it or not, go out and exert ourselves and spend our money in their protection? The Lieutenant Governor says that we ought. Those of us who were before the Legislature this year, found that the chiropractors, the christian scientists and every other kind of healer out for money were there in force—and I want to pause here long enough to say that for once we drove the christian science healers into admitting that they desire to practice medicine, and for money. Before they said they desired to practice religion. We drove them from under cover, and I think it is quite an advantage.

I think this is an opportunity to call attention to the fact that many doctors do not understand that the cults are simply limited fields of practice. Many doctors still think that the practice of medicine is the administration of drugs. It is not merely the administration of drugs, of course, and people must come to understand that, and we must inform them.

Now, another expenditure that we felt justified in making: We believe that the time has come when the doctor, as intimated by Governor Davidson this morning, in addition to being a doctor, must be a citizen as well. It is not only our business to help direct the public health, but we must get out and help run the public school system and every other kind of system. We belong to a learned profession, and are placed in a group supposed to be leaders. If you will study the politics of Europe, of South and Central America and Mexico, you will find that many of the prominent politicians of those countries are Doctors of Medicine. It is to the discredit of the profession of Texas that in Austin we haven't as much influence as the ordinary ward politician. I speak of this to justify an expenditure of money to which I am going to call attention. Very often a Senator or Representative, back home says, "Oh, no, I helped you put over that bill; I was in favor of that bill; I talked for that bill," and so on. We can't controvert him because we don't have the record. This time we decided to employ court stenographers and take down verbatim whatever they had to say, pro and con. We thought we were justified in the expenditure of this money, particularly in view of the results. There were several changes in the line-up, we understood, when it became known that the record would be kept not only straight but full. (Laughter and applause.)

I don't care a continental whether they call me a political doctor or not. Some of you have remarked that I have put on a little flesh lately. (Laughter and applause.) I want to tell you that I have learned to use one little English phrase, and I believe it has helped me a great deal. "I don't give a damn." (Laughter and applause.) As a citizen of Harris County, I propose whenever I feel like it to get out and support any one whom I choose. If that man cares to go by me in the selection of a surgeon, "I don't give a damn." (Laughter and applause.) When it comes to pass that a little group of section hands, or blacksmiths, or any other little group (for all of whom I have the profoundest respect, you understand —I am a carpenter myself) has more influence in the Legislature than the doctors, I say it is a shame. I have just heard of one individual who swore that he didn't care for the support of the doctors; that he would rather have the support of the chiropractor than all the doctors put together. I am reliably informed that he has just been retired from office. (Laughter and applause.) The doctors of that county took off their coats and went into the fight, and they won it. And they are priming themselves to take the mantle off of another gentleman who similarly prided himself.

But to get back to the subject. You have a record now of every act of the Senate and House of Representatives, as pertains to the recent Medical Practice Act fight—you can know who spoke and what they said, and who voted and how they voted—and who avoided both.

Now, we have accumulated a little money. We will need it. We have a large program.

Report of Board of Trustees

The past year has been one devoted largely to harboring our resources and getting our bearings established preliminary to planning an advance along various lines. We are pretty well settled in our new offices in connection with the Tarrant County Medical Society, and matters are running quite smoothly, in spite of the fact that we are in the midst of a legislative year.

As outlined in our previous report, the Trustees have felt that we should expend the Association's money only when our interests are involved directly, or where the interest and welfare of the public are at stake.

The Board of Medical Examiners, a part of the State government's machinery for the protection of the people, saw the necessity of amending the Medical Practice Act and asked the assistance of our Association We rendered what assistance we could with a view to further rendering a service to the people and the State by seeing that only those practice medicine who are educationally qualified. We believe that permitting poorly qualified men or women to practice medicine is operating not only against the welfare of the people but against the interests of the medical profession as well. We firmly believe that it is to our own interests to see that the standard of medical practice be kept high so as not to reflect badly upon our profession. We must unselfishly direct medical legislation for the State's good, as well as fight to prevent legislation that discriminates against us.

The Legislature, we are pleased to say, took the high ground for educational preparation for all who shall practice or attempt to practice the art of healing, without reference to any particular theory for doing this or that thing. The Governor signed the bill, thus endorsing a measure presented by the State Board of Medical Examiners.

The Board of Trustees feel that in the expenditure of a small sum in assisting the Board of Examiners to put through a bill so vital to all concerned, it has not departed from the policy announced last year.

We thought it advisable, also, to have a complete and correct stenographic report of what was said by the various Senators and members of the House, believing that the medical profession ought to actively participate, as one of the learned professions, in the selection of sane and safe legislators. We think this money wisely expended, as we now know not only how the votes were cast, but what the views of those speaking for and against the measures are.

Our expenditures have been trivial compared with those reported to have been spent by such cults as oppose any laws that require a sufficient preparation before attempting to treat the sick in any manner.

We wish the Committee on Collection and Preservation of Records to understand that we have not forgotten their requests for an appropriation of money to carry on their efforts in doing the work that their committee has in mind. They have been very diligent in collecting and preserving such data as has been possible up to this date. The Board expects to begin the expenditure of money along the lines planned by the committee, as soon as the details in the JOURNAL Office have been thoroughly enough worked out to carry on the work economically. The lack of sufficient help in that office, linked with the immense amount of work necessary to be done during the legislative year, has delayed this work to some extent. We must secure competent help to compile the data before it is undertaken.

The Board of Trustees has authorized the expenditure of money in getting a complete stenographic report of the discussions made before the Scientific Sections of the Association during the Annual Session. It remains, however, to be determined whether the reports of discussions are of sufficient value to justify the expenditure of so much money. We thought best to try it out this year, and are requesting that those who discuss papers try to have their ideas well matured and present them in such a way as will be of value when printed.

The auditor's report and certificate are herewith presented:

AUDITOR'S REPORT

Exhibit A

ASSOCIATION FUND

Statement of Receipts and Disbursements
from April 30, 1922, to April 30, 1923

RECEIPTS

	Earned	Collected
For Membership Dues for Year 1922	$ 728.00	$ 728.00
For Membership Dues for Year 1923		6,798.00
	$ 728.00	$ 7,526.00
For Membership Dues for Year	6,624.00	6,624.00
Earned Balance to Credit of this Fund Prior to April 30, 1922	$ 8,089.48	
Less Advertising in 1922	284.77	
		7,804.71
	$ 7,352.00	$21,954.71

DISBURSEMENTS

Expenses, Year 1922-23	$ 6,654.09	$ 6,654.09
Earned Balance for Year 1922-23	697.91	
Cash Balance to Credit of Fund		15,300.62
	$ 7,352.00	$21,954.71

DISBURSEMENTS CLASSIFIED

Annual Meeting Expenses, 1922:		
Reportorial Work	$ 399.34	
Badges	303.31	
Programs	78.75	
Printed Reports	194.20	
Railroad Identification Certificates	15.50	
Traveling and Hotel Expenses, Secretary and Staff to El Paso	233.83	$ 1,224.93
State Councilors' Expenses:		
F. U. Painter	$ 35.00	
P. C. Coleman	22.00	
J. E. Dildy	25.00	
Stationery	125.55	207.55
Legislative Committee Expenses:		
Jeff L. Reese	471.10	
G. I. McGee	60.00	
J. D. Swearingen	158.50	
Printing Reprints	94.85	
Miss Anna Watts, Stenographer	10.00	
Telegrams and Telephone	177.90	
Entertainment	63.50	
Postage	34.72	
Secretary's Expenses	315.89	1,386.46
Indemnity Bond—Premium		21.60
Auditor and Insurance		$ 40.82
Secretary's Expense—A. M. A. Meeting, St. Louis		117.37
Secretary's Expense—State Secretaries Conference, Chicago		53.61
Secretary's Expense—Board of Trustees, Temple		15.13
Salaries:		
Secretary, 12 Months	$ 1,586.73	
Bookkeeper, 12 Months	460.08	
Stenographer, 12 Months	520.08	2,566.89
Secretary's Office Expense:		
Rent	400.08	
Postage	160.27	
Telegrams and Telephone	136.83	
Stationery and Office Supplies	133.29	
Membership Cards	15.25	
Repairs	8.48	
Signs	5.00	
Income Tax and License	7.05	
Floral Tributes	15.40	
Binding Journals	45.00	
Advertising	84.00	
Miscellaneous	9.00	1,019.65
Total Expenses, 1922-24		$ 6,654.00

Exhibit B

JOURNAL FUND

Statement of Receipts and Disbursements
From April 30, 1922, to April 30, 1923

RECEIPTS

	Earned	Collected
For Membership Dues for Year 1922	$ 728.00	$ 728.00
For Membership Dues for Year 1923		6,798.00
For Non-Membership Subscriptions, 1922-23	23.29	23.29
For Non-Membership Subscriptions, 1923	11.71	11.71
For Sales of Journals	17.75	17.75
	$ 780.75	$ 7,578.75
For Membership Dues for Year to April 30, 1922	6,624.00	6,624.00
For Advertising Sold to April 30, 1923	13,983.53	1,938.53
Earned Balance to Credit of this Fund to April 30, 1922		2,119.95
	$21,388.28	$30,306.23

DISBURSEMENTS

Expenses, Year 1922-23	$19,049.12	$19,049.12
Earned Balance for Year 1922-23	2,339.16	
Balance to Credit of Fund		11,257.11
	$21,388.28	$30,306.23

DISBURSEMENTS CLASSIFIED

Printing Journal		$10,383.18
Engraving		371.40
Postage—Mailing		424.66
Advertising Commissions		628.28
Discounts to Advertisers		244.99
Administrative Expenses:		
Rent	$ 679.92	
Printing and Stationery	231.83	
Postage	317.72	
Telegrams and Telephone	258.61	
Subscriptions to Periodicals	22.50	
Expressage	.34	
Repairs	19.61	
Indemnity Bond Premium	43.32	
Auditor and Insurance	81.58	
Copyright	13.00	
Signs	10.00	
Binding Journal	12.00	
Legal Expense	12.50	
Advertising	136.75	
Miscellaneous	23.82	1,863.50
Salaries:		
Editor 12 Months	3,173.27	
Bookkeeper, 12 Months	919.92	
Stenographer, 12 Months	1,039.92	5,133.11
Total Expenses, 1922-23		$19,049.12

Exhibit C

MEDICAL DEFENSE FUND

Statement of Receipts and Disbursements
From April 30, 1922, to April 30, 1923

RECEIPTS

	Earned	Collected
For Membership Dues for Year 1922	$ 364.00	$ 364.00
For Membership Dues for Year 1923		3,399.00
	$ 364.00	$ 3,763.00
For Membership Dues for Year to April 30, 1922	3,312.00	3,312.00
For Interest on Daily Balances to April 30, 1923		741.70

Earned Balance to April 30, 1922		$ 9,695.48
	$ 3,676.00	$17,512.18

DISBURSEMENTS

Expenses, Year 1922-23	$ 3,958.31	$ 3,958.31
Less Deficit for Year 1922-23	282.31	
Cash Balance to Credit of Fund		13,553.87
	$ 3,676.00	$17,512.18

DISBURSEMENTS CLASSIFIED

Expenses:		
Attorney's Fees, Viz:		
H. V. Johnson	$ 110.65	
R. B. Homan	300.00	
C. H. Brownlee	200.00	
E. H. Cary et al.	50.00	
W. I. Joss	337.35	
McCelvey & Pollok	261.05	
J. C. Ellis	235.00	
W. B. Thorning et al.	100.00	
W. H. Dunn	227.50	
Ross Trigg	150.00	
W. Hyde	100.00	
W. Zuniga Olvera	200.00	$ 2,271.55
General Attorney:		
Retainer for Year and Services		600.00
Attorney's Fees:		
Revising Medical Practice Act		433.00
Pamphlets from Medical Protective Co.		44.04
Telegrams and Telephone		9.72
Salaries:		
Secretary, 12 Months	240.00	
Bookkeeper, 12 Months	120.00	
Stenographer, 12 Months	120.00	480.00
Office Rent, 12 Months		120.00
Total Expenses		$ 3,958.31

Exhibit D

RECAPITULATION

Balance, Cash and Liberty Bonds on Hand April 30, 1922		$49,662.81

RECEIPTS

Association Fund	$ 7,526.00	
Journal Fund	21,562.28	
Medical Defense Fund	4,504.70	
Unappropriated Fund	1,621.81	
Accounts Receivable, reduced	302.66	
Furniture and Fixtures, reduced	74.54	
Improvements, reduced	112.50	35,704.49
		$85,367.30

DISBURSEMENTS

Association Fund	$6,938.86	
Journal Fund	19,110.37	
Medical Defense Fund	3,958.31	
Tarrant County Medical Society, Advanced	549.85	
Notes Receivable, increased	213.62	
Accounts Payable, reduced	151.90	
Accounts Receivable, charged off	328.64	
Reserve—Accounts Receivable—reduced	271.82	
Depreciation, charged off	281.54	31,804.91
Balance on Hand April 30, 1923		$53,562.39
Cash with Treasurer	$38,130.42	
Cash with Secretary	181.97	
Total Cash	$38,312.39	
Liberty Bonds, par	15,250.00	$53,562.39

Exhibit E

BALANCE SHEET

State Medical Association of Texas
as at April 30, 1923

ASSETS

Cash with Treasurer		$38,130.42
Cash with Secretary		181.97
Liberty Bonds, par		15,250.00
		$53,562.39
Tarrant County Medical Society		549.85
Notes Receivable		1,070.08
Accounts Receivable—Advertising		2,502.98
Furniture and Fixtures	$ 1,696.04	
Less Depreciation	169.04	1,527.00
Improvements	450.00	
Less Depreciation	112.50	337.50
Annual Meeting, 1923		15.50
		$59,565.30

LIABILITIES

Collections Unearned:		
Association Fund	$ 6,798.00	
Journal Fund	$ 6,798.00	
Medical Defense Fund	3,399.00	$16,995.00
Collections Earned:		
Association Fund	$ 7,804.71	
Journal Fund	2,119.95	
Medical Defense Fund	9,695.48	
Unappropriated Fund	15,517.69	
	$35,137.83	
Less Operating Deficit Medical Defense Fund	282.31	34,855.52
Earnings of Funds, 1922-23:		
Association	$ 697.91	
Journal	2,339.16	
Interest—Medical Defense	741.70	
Interest—Unappropriated	1,621.81	5,400.58
Accounts Payable		17.29
Reserve for Notes Receivable		250.00
Surplus		2,046.91
		$59,565.30

AUDITOR'S CERTIFICATE

I have audited the accounts of the State Medical Association of Texas, for the fiscal year ended April 30, 1923, and as showing the financial condition of the Association as at that date the balance sheet herewith—Exhibit E—is submitted. In support thereof, showing the receipts and disbursements for the period under review for the respective funds, Exhibits A, B, C. and D are presented.

Of the total assets $57,885.30 is liquid and $1,864.50 fixed.

Included in the sum of $57,251.10 to the credit of the four funds is $16,995.00 of unearned dues and subscriptions that will be available for operating expenses for the year ended April 30, 1924.

The net earnings for the past fiscal year were $5,118.27 including $2,363.51 interest collected.

I have verified the cash and securities. Of the latter $10,250.00 of Liberty Bonds will mature during the present month. I have also seen that the surety bonds and the fire insurance policy are in force.

It becomes my pleasant duty to testify to the excellent manner in which the accounts and records of the Association are handled by the efficient and obliging office staff and I certify that the exhibits herewith are correct and that they are in agreement with the books.

D. H. Kernaghan, Certified Public Accountant.

The total profits on the year's business amount to $5,118.27, including interest. The profits last year were $7,821.34, $2,420.76 in excess of the profits this year. This represents a legitimate difference, and while it is to be regretted that it is not more, it is felt that the increased service rendered was worth the money. The profits have been distributed through the several funds into which our money is divided, as follows: Association Fund, $697.91; JOURNAL Fund, $2,339.16; interest account, $2,363.51. The Medical Defense Fund lost $282.31. It should be stated just here, that the interest account is to be divided between the Medical Defense Fund and what is called the "Unappropriated" Fund. The Association and JOURNAL Funds do not participate in the division of the interest account, but the Medical Defense Fund must have its share because it is separate and distinct from the other monies of the Association. Of the total amount of interest received on all funds, the Medical Defense Fund earned $741.70. This amount brings the fund out of the hole and makes it show a profit on the business for the year, of $459.39. It may be of interest to note just here, the value to this fund, and to all other funds, as for that, of having a goodly amount of surplus on hand, drawing a fair interest. Our income from bonds and interest-bearing deposits amounts to $116.24 over that of last year. The income from this source is nearly $200.00 per month. It is a profit on good judgment rather than hard work.

Among the excess expenditures might be particularly noted that for legislative purposes, which normally comes every two years. Last year we were confronted with considerable expenditures in this line, but conditions then were rather unusual, the called session of the Legislature extending into what should have been an off year from a legislative standpoint. This year we have spent $1,386.46 out of the Association Fund and $433.00 out of the Medical Defense Fund. Perhaps it would be well to recall, in this connection, that the Council on Medical Defense is authorized to contribute of its funds to the enforcement of the medical laws of this State. The money expended from the Medical Defense Fund covered attorneys' fees in the matter of perfecting the Medical Practice Act bill, and in solving legal problems arising during its passage through the Legislature. It might be well, also, to take note of the fact that during the past three years the Association has spent $4,224.96 in legislative efforts. This is a small amount, it is true, but considering our relative responsibilities in the premises, it is quite a good deal. In comparison with the money spent by the opposition it is, no doubt, insignificant.

As stated above, the JOURNAL cleared during the year, $2,339.16. Last year the JOURNAL made $3,496.70, in spite of the fact that we began the year's work with a deficit of $657.75. The difference in earnings is accounted for by the larger and more expensive volume published, and not by any decrease in the amount of income. The element of dues remains constant, but the advertising income varies extensively. The increase has been gradual for several years, but of late months advertisers have been taking more interest in their copy, which has cost us more money in resetting and rearranging the advertising pages in general. In this connection, it seems that the State journals are about to break into a class of advertising heretofore denied them—nationally advertised commodities not strictly pertaining to medicine. For instance, recently a big shoe manufacturing concern has been using extensive space, and an investment concern doing a nation-wide business has been using a full page. We are about to enter into contract for a page space for a portable typewriter, and other such contracts as this are in prospect. This is good business and it is anticipated that we will be able to show a greatly increased profit from advertising next year if we can make good. Whether or not we make good depends entirely on our readers. If these advertisers received returns on their investments they will continue, and similar advertising will come to us as a matter of course.

We have been carrying from 40 to 46 pages of advertising each month, which has been enough to warrant a 96-page JOURNAL, on an average, which is splitting on a better than fifty-fifty basis, but there is no reason in the world why we should not increase our advertising materially, thereby permitting a much larger and more expensively gotten up publication. We have ample material, and it would be an advantage to be able to use a better quality of paper. It seems somewhat ridiculous that some of our members will divide their support between unethical and jerk-water publication, and permit their own property, published for their information and profit, to take care of itself.

The Board of Trustees desires especially to thank the Secretary-Editor and all of his office force for their consistent, painstaking efforts to do the work of the Association in the best possible way. They have been constant and cheerful, in season and out of season.

Respectfully submitted,

JNO. T. MOORE, Chairman.

Referred to Reference Committee on Finance.

The President: Gentlemen, I know it is out of order, but I want you to hear something of the San Antonio affair. Dr. Dorbandt, I am going to ask you to give us the needed information.

Dr. Thomas Dorbandt of San Antonio: We have five Representatives from Bexar County. One, Mr. Davenport, who was elected largely by the labor unions, was considered a leader; he was against us from the beginning, but he was manly enough and frank enough to tell us that he was absolutely against us. So it was not necessary to talk with him. But a certain Mr. LeStourgeon, when he sought the office of Representative from Bexar county, came to the doctors and said that he had read the Medical Practice Act of Texas, was thoroughly familiar with it and was in hearty sympathy with it and with the doctors. Upon that plea, he asked for the support of the doctors. He was given the support of the doctors and was elected by a handsome majority. That was two years ago. This year; that is, at the last election, he promised the same thing. He said he was of the same frame of mind, and was for higher education, the highest standard of medical practice, and so forth, and he was re-elected.

When the chiropractors began to get in their work at this last session of the Legislature, our friends kept telling us that LeStourgeon was not for us. He told that he was for us and was doing what he could for the Medical Practice Act. As a matter of fact, we are told that he switched two of our other Representative to vote against us. In our recent elections, held a few weeks ago, he was a candidate for commissioner of sanitation in San Antonio, and the doctors opposed him as a body. There are two hundred and four members of the Bexar County Medical Society, and we had two hundred and four active workers against him, with one exception. LeStourgeon had been selected to lead the ticket. He was selected because, it was thought by his crowd that he could lead anything in San Antonio, and the present park and sanitation commissioner, Lambert, who was a very good one, was probably in bad grace. When the election was over and the votes were all in, we found that we had skinned Mr. LeStourgeon like a hungry boy would a banana. We beat him by more than six thousand votes. (Applause.) Just a day or two before the primaries were held he approached several groups of doctors and wanted to know why in the world the doctors had it in for him. He stated that he had supported them and was all right; that he didn't oppose the doctors in any manner. But we had the record on him and showed him where he had voted for an amendment exempting the chiropractors and christian scientists. We had the goods on him.

The President: Report of the Board of Councilors is next.

Dr. M. F. Bledsoe of Port Arthur: The report of the Board of Councilors is found beginning on page 21. I will stress a few points in the report, particularly with reference to the postgraduate courses of instruction. We will hear something of that also from the Committee on Medical Education. There is a splendid spirit of fraternalism between the deans and faculties and those who are taking part in the postgraduate courses. We talk about educating the people—we must continue to educate ourselves. You saw the announcement in the April JOURNAL. These courses will be held in Baylor, June 4 to 16, and Texas, June 11 to 23. That is going to interfere somewhat with a few attending the A. M. A. in San Francisco, and it is going to burden the faculties, but they are staying on the job for our benefit. It is a great burden and a great opportunity. If you delegates do not go back to your county societies and

urge attendance upon these courses of instruction, you will be derelict in your duty.

The president has suggested a revision of the Constitution and By-Laws. The Board of Councilors finds that it cannot function on the question of publicity in the way the present Constitution and By-Laws contemplate, and should not, because there is another committee, the Council on Legislation and Public Instruction, freighted with that duty, and it should not have to go before the Board of Councilors on matters they desire to give out to the public.

A new and enlarged Council on Legislation and Public Instruction can be co-ordinated in function with the Board of Councilors, to the good of the order, and the proper education of first the medical profession then the lay public, on all medical and public health problems.

When you go back to your county society, and we said this two years, four years ago, make a report on your work in this House of Delegates, and get the Constitution and By-Laws of the State Association and read these officers and committees' reports. It is hard reading to some, but some of us devour it; we like it. It is not interesting until you read it a time or two, and when you do read it, you will know something about what is going on.

We request permission to make a supplemental report.

Report of Board of Councilors

Our report is brief. Routine matters are, as usual, covered so thoroughly by the Secretary in his annual report, that it is hardly necessary for a complete duplication. Organization and reorganization of county societies, and our numerical strength, etc., will be found in the Secretary's report, and perhaps a supplemental report of the Board of Councilors.

We have had no trials and have made but one ruling on the interpretation of our Constitution and By-Laws.

RULING ON TRANSFER OF MEMBERSHIP

Section 6, Chapter 14, as amended May 10, 1917, has been interpreted to mean that it is obligatory on the part of any county society to accept transfer cards of members in good standing in other county societies, when presented within one year after removal.

Owing to a lack of clearness in this section and chapter, and the various constructions that have arisen, a committee has been appointed to prepare corrective amendments.

The two post-graduate courses in the two teaching institutions of this State, last year, were so uniformly successful, that the Board of Regents of the University of Texas, and the Board of Trustees of Baylor University, on the recommendations of their respective medical faculties, have made it possible to give this year two weeks' instruction instead of one (see announcement April Journal, page 592). The Baylor course will be given June 4 to 16, and the University of Texas course June 11 to 23.

We want to commend most highly the attitude of these noble institutions in this respect. It is a great responsibility that the faculties assume, and without pay. In conference with the Committee on Medical Education and with the Deans of the two institutions, we are assured that the faculties are perfectly willing to take up this extra burden, and the Texas State Medical Association is to be congratulated that such a spirit of altruism exists.

It is highly probable that interest will continue in post-graduate work until it will more than tax the ability of our two teaching institutions to adequately furnish instructions for all those desiring it. It may become necessary to establish other centers for post-graduate work. It is thought, however, at this time, that the problem had better be approached with a great deal of care and discretion. The Committee on Medical Education has this matter under serious consideration. It has made some investigations and given the subject a very great deal of thought and, at the proper time, the work may be extended.

With reference to more publicity, much work has been done, but our plans have not assumed any definite shape by way of organization. Publicity, from a medical standpoint, is largely a question of psychology. It should be handled by county societies, under the jurisdiction of the councilor. In one county, a campaign for voting bonds to establish a county tuberculosis hospital was begun by the local county anti-tuberculosis committee. The medical profession apparently took a minor part in the campaign, but furnished letters, pamphlets, speeches, information, etc., to the ministers of the county, who put the project over. Where it can be done, this seems an ideal way of getting the proper information to the public at a time when it can and will be appreciated.

The recent activity demonstrated by county societies, in assisting the State Board of Medical Examiners in amending the Medical Practice Act, is evidence that the rank and file of the medical profession can do things, and will work when they really feel it their duty to do so.

Just here it is desired to congratulate the county secretaries and presidents, and for that matter the entire membership, on its responsive and unstinted activity in the recent legislative controversy. It was unfortunate that so little time could be given in which to get information to the membership; but, be that as it may, the results were gratifying.

After careful consideration, it is deemed advisable to call the attention of county societies to Section 8, Chapter 7, of the Constitution and By-Laws, which places the responsibility on the Board of Councilors, of communicating to the public and the lay press the views of the profession and of the Association, in all matters relating to the public health and the medical profession. It sometimes happens that, in a keen and consistent desire to serve the public, a local county society will render an opinion with reference to the propriety and efficacy of certain advertised cults, treatments, etc. It is intended that the Board of Councilors should have supervision over this kind of publicity, and county societies are cautioned to be more careful in their resolutions, deductions and publicity. When a county society, or any member thereof, determines that an opinion should be given the public, the information should be passed to the councilor for approval. This is not intended to centralize authority, and is not an invitation to the Board of Councilors to exercise privileges and prerogatives justly belonging to others. The intent of our Constitution and By-Laws, properly interpreted, is to safeguard democratic principles at all times. By virtue, however, of the position the councilor occupies, he is more likely to be informed on matters affecting the profession as a whole, than the members of a county society. What may be considered a right and proper procedure in one section of the State may, under certain circumstances, interfere with and hamper Association activities, as a whole or in part in some other section. Again, time can be saved in many instances by addressing councilors on the average matter pertaining to ethics, organization, etc., instead of the Secretary-Editor.

If there is any one thing that doctors seem to know little or nothing about, it is the Constitution and By-Laws of their own State organization. It seems that the average member is more familiar with the rules governing our national pastime, baseball, than he is with the organization side of the State Medical Association. There is no one in this great Association of ours better posted on the Constitution and By-Laws than our own Secretary, Holman Taylor. He was a councilor for many years,

and served as secretary of the Board. He is in touch with every phase, and thoroughly familiar with all angles of the Association, but he has no authority to pass on matters of ethics, organization, etc.; and while he is ever so willing to be worked and ridden, it is a waste of time to refer matters belonging to other officers, to him. The chairman of the Board of Councilors is constantly receiving carbon copies of letters from his office, in which he is giving his personal opinion with reference to various matters pertaining to ethics. Such inquiries should have been addressed originally to the councilor.

While the Board has not been called upon to pass on any case of violation of medical ethics, in connection with consultations between any members of this Association and a so-called irregular, it is thought wise and proper, in view of several recent inquiries received by the State Secretary, to give expression to the views of the Board, with reference to consultations. It is unquestionably the duty of every physician to keep in mind that suffering humanity should have his first consideration; that in an emergency a physician should answer a call, make an examination and render an opinion. Consultation with legally qualified practitioners, whether they practice sectarian medicine or not, is always in order under such circumstances, provided the consultant does not indulge in fraudulent practices and unscrupulous advertising, such as to deceive the public. The regular medical profession, legalized by the State to practice, can not be a party to violations of the law, and therefore can have no consultation with illegal practitioners.

After long and serious observation, it is desired to call attention of the Committee on Legislation and Public Health that their period of service is not confined to one year, but that they are in harness for three years, and that their constant attention, advice and counsel, is in order and courted at all times. As already reported, the county societies and the entire membership, rallied to the front and did valiant service during the regular session of the recent Legislature, on short notice. Had it been possible for county societies to have had before them during the year, literature, statistics, well-formulated arguments, etc., on the subjects to be considered, it is believed that the results would have been more gratifying. The conclusions of the Board, as here recorded, are in no sense meant as a criticism, for if ever a committee deserved the unstinted praise and approbation of the entire profession, it is felt that the present Council on Public Health and Legislation is entitled to and has it. We must, however, profit from past experiences, and it is recommended that this Council continue its program of education, not only of the public, but of the members of the State Medical Association.

With your permission a supplemental report will be made later.

Respectully,

M. F. Bledsoe, Chairman.

Referred to the Reference Committee on Reports of Officers and Committees.

The President: The next will be the report of the Committee on Legislation and Public Instruction.

The Secretary: You will find this report beginning on page 25 of the pamphlet. Please note that this council began its work instructed to continue its efforts to secure adoption of amendments to the Medical Practice Act and the education of county societies. Then the committee was confronted with the apparent change of legislative policy adopted at El Paso. It worked very carefully, very conservatively, and tried to carry out what it considered to be the instructions of the House of Delegates at El Paso, which was slightly conflicting. Eventually, it was made to appear that it was desirable for the State Medical Association to support the State Board of Medical Examiners, in securing amendments to the Medical Practice Act. That was done. An account of the whole procedure is in this report. A full account of the votes of the Senate and House on the amendment to the Medical Practice Act, is recorded here. It is a record which may be in error in some particulars, but don't jump to conclusions in regard to any claimed error. This matter has been very carefully worked out from the official records of the Legislature.

You will find the record of the votes on pages 30 and 31 of the pamphlet. They will be invaluable to you. I have quite a number of these reports and they will be available when the next elections are held.

You will find, beginning on page 34, a complete account of the various public health bills introduced in the House and Senate, who they were introduced by, what they proposed to do, what became of them, and the committee's opinion about some of them; the laws that were passed as well as those that failed to pass.

On page 46 the Council makes some observations which I call to your special attention. The Council concludes its report by several recommendations. You will note those recommendations on page 48. The important one of these is that the educational work on public health matters and on medical matters, should be carried on after a certain idea, a plan which is a composite of the suggestions made by the Board of Trustees, the Board of Councilors and individuals who have given the matter considerable thought. It includes the organization of public health societies in accordance with the plans of the Board of Councilors, already announced and already approved by this House of Delegates. It is recommended that one single individual in each community, who shall be of the very highest possible type, thoroughly inform himself about all of these matters and lead in such work in his county society, and see that his society is competent at all times to discuss these problems intelligently and intelligibly with those who should know. It is recommended that the Council on Medical Defense be authorized to cooperate with the State Board of Health and other agencies in the United States which are seeking the revising and revamping of the public health laws of this State, and including the care and treatment of the insane, in order that we may put two years' time in a complete revision, and not a patch-work revision, which it seems necessary to do at this time, as an expedient.

Report of Council on Legislation and Public Instruction

It will be recalled that our last report was concluded with two recommendations, namely, (1) that we be authorized to continue our efforts to secure the adoption of amendments to the Medical Practice Act, and that (2) county societies make special efforts to educate prospective legislators on the subject of the practice of medicine, in order that high educational standards might be maintained, regardless of the intervention of religion or sophistry of any character. These two recommendations were approved by the House of Delegates.

At the same meeting, following discussion of our expenditures in the interest of medical legislation, the House went on record as being opposed to forcing our services on the Legislature in considering medical legislation, or any other legislation looking to the protection of the public, announcing that we would reserve our active efforts until they were requested or until our interests as a profession were directly attacked.

There being more or less of a conflict of action in so far as the work of the Council on Legislation and Public Instruction is concerned, the Council proceeded with reserve, informing all concerned that we were subject to call but would assume the lead and major responsibility only when the affairs of the profession were directly assailed. This was our attitude when the State Board of Medical Examiners again requested our support in securing amendments to the Medical Practice Act. We entered into conference on this subject, and eventually gave our approval to a proposed measure, which was somewhat a revision of that introduced in the preceding Legislature and which failed because of a fillibuster conducted by the opposition in the Senate, and concerning which no further comment need be made here. The Council on Medical Defense, upon request of the Council on Legislation and Public Instruction, secured the necessary legal attention to this measure, and it was introduced in the Senate by Senators Cousins and Holbrook (S. B. 141), and in the House by Representatives Culp, Shearer, Melson, Smith and Dodd (H. B. 272).

Still following what we considered to be the new policy of the House of Delegates, the Council assumed the responsibility of educating the medical profession as to the needs of the amendments asked for, and endeavored in a number of ways to impress legislators that the measure, or some not considerable modification thereof, should by all means be enacted into law. The Board of Medical Examiners were kept in the lead, although it was freely and as publicly as possible announced that our membership, comprising the great bulk of the medical profession, was in favor of this measure.

Prior to the introduction of this bill, numerous conferences were held on the subject, and numerous modifications of the original draft were made. Every effort was made to meet the requirements of the so-called minor schools. In this particular, some difficulty was met with, in so far as the osteopaths were concerned, because of the suspicion of some that our organization would endeavor by means of the amended Medical Practice Act to throttle their school, and more particularly to interfere with the use of the so-called Abrams methods of diagnosis and treatment, which it seems quite a few osteopaths had taken up. As a matter of fact, it was this little bone of contention that made most of the trouble during the passage of this bill, some of the modifications being made after it had been introduced, which required withdrawals and substitutions until more or less confusion existed. All differences were eventually ironed out, and the osteopaths joined the rest of the legalized medical profession in the State in the laudable effort to pass the bill.

It early became apparent that more than the usual effort would have to be made if this bill were enacted into law, in view of the concentration of opposition on the injunction feature. It was recognized that the claims of the chiropractors and the christian scientists would receive much support, but nothing like the support opposition to the injunction feature would receive. There were some who honestly believed that the injunction provided was bad, but a still larger number of those who opposed this plan, in our opinion, used it as an excuse to evade an issue. We are informed that the chiropractors had, through their agents, interviewed practically every legislator during the legislative recess. We were furthermore informd that very few legislators had heard from their local doctors. It was apparent that something more than the argument of the Council, and county society legislative committees in addition, would be required.

At a conference held in Dallas, at the instance of the Dallas County Medical Society, with a number of legislators present, it was decided to conduct a publicity campaign, with a view to securing the support of the lay public, and in general arousing the conscience of the public as to the importance of the Medical Practice Act and its proper enforcement. Dr. C. M. Rosser, of the Council, was made chairman of the Publicity Committee, and given a free hand. He brought to his assistance not only the members of the Council, including the president, but a large number of other members as well, and the State was fairly well covered with speakers of eloquence and ability. Never before have the people been so thoroughly, so frankly informed on a question always considered extremely delicate and so extremely controversial. The Council unhesitatingly attributes to this publicity campaign the largest measure of credit for the success attained in this particular legislation.

Concerning the progress of this bill through the Legislature, little need be said here, in view of the publicity given that matter through the columns of the JOURNAL. Reference is here made particularly to the December, January, February and March numbers, the latter containing a verbatim report of the debate on this bill in both House and Senate, and the important roll calls. It is here that the attitude of the individual legislator, whether Senator or Representative, may be definitely determined. It is to be hoped that our members will treasure the March JOURNAL and use it just prior to the next elections, and even sooner than that, in ways that may be effective. To make a long story a bit shorter, the Senate bill was pushed through the Senate and then the House, with certain modifications, none of which, it is believed, will hurt, so far as ultimate results are concerned.

The injunction feature was so modified that final conviction in any given case must be had before the injunction can be made to apply, which means at least two trials. Thus the effectiveness of the bill will be somewhat retarded, but it was this modification that disarmed, very largely, the reconcilable part of the opposition.

The christian scientists were permitted to treat the sick by prayer, without the use of any drug or material remedy and providing that sanitary and quarantine laws and regulations are complied with, but they were specifically forbidden to make any charges therefor, directly or indirectly. Senator Holbrook, one of the authors of the bill, introduced the original christian science exemption amendment, which was passed by a narrow margin. Senator Witt introduced the no-charge amendment to this amendment, which was adopted by a good, safe majority. So it transpires that the condition of the Christian Science healer, who really stirred up the opposition to the bill and made all of the trouble, was made worse instead of better. So far as christian science itself is concerned, there need be no uneasiness, and the christian scientists were not uneasy. Our opposition was not to the exemption of the christian science religion, but to the mention of any sort of treatment whatsoever, religious or otherwise. It is our understanding that, from a legal standpoint, the law could not apply to the healing endeavors of the christian scientists in so far as they carry out their religious tenets, but that it did prevent the *professional healer* from opening up an office and entering the practice of medicine as would any other practitioner. While this amendment interferes with the symmetry of the bill, it is perhaps best that it is there. There can now be no doubt as to the meaning of the law as it relates to the christian scientists.

The right to revoke licenses was taken from the board and referred to the district court. This was clearly a mistake, but it will have no effect on the effectiveness of the law and neither will it inhibit the revocation of licenses. We had no real objection

to offer to this amendment. Perhaps the principal objection that could be urged is that the courts are so eternally busy that they may not care to be bothered with such matters as these. The other amendments were not of such importance as to require discussion here.

However, perhaps it should be mentioned here, that in addition to providing the means whereby the law may be enforced, and made certainly to apply to those to whom it should apply, the board has been given the right to divide its examination into two parts, so as to examine the medical student on those branches which are strictly scientific and which are not studied in the last two years of schooling. This is not obligatory. It is believed that it will be a real advantage to the applicant for license. He will be able to give more attention to the more practical branches after he has taken the first half of the examination.

The board has been given the authority to recognize the credentials of any physician who demonstrates by a procedure set out in the law, that he has successfully met a test at least as exacting as that required by Texas, regardless of any of the usual considerations of the present so-called plan of reciprocity. The board can thus recognize the National Board of Medical Examiners, if it chooses. This is real advance. The licensing of physicians to practice medicine is for the benefit of our people and not for the benefit of the licensee, and all that we need to know is that the physician is qualified. If we can determine this without further examination, there would seem to be no objection. The only objection that could be raised would be the possibility of favoritism, whether for profit or because of personal influence, neither of which contingency is likely to arise in a board of the character of ours. Regardless of the element of honesty, their interests are too varied for that.

The attitude of the various members of the Senate and House towards standardized and protective medical legislation, may be easily determined by reference to the March JOURNAL, already mentioned.

Taking the several roll calls into consideration, and remembering that there was much confusion at times, for which reason it may be necessary to hereafter modify our opinion, the following is our estimate of the situation:

In the Senate, the following senators may be said to have voted the ticket straight throughout: Bledsoe, Bowers, Burkett, Clark, Cousins, Doyle, Rogers Stuart, Turner, Wirtz and Wood.

The following were against us on all amendments: Davis, Fairchild, Floyd, McMillin, Murphy, Parr, Rice, and Watts.

The following were with us in the main, but went wrong on the christian science vote: Bailey, Dudley, Holbrook, Lewis, Pollard, Ridgeway, Strong, Witt and Woods. Bailey, Pollard, Strong and Witt, recouped by voting for the "No pay, no pray" amendment of Senator Witt.

The following senators differed with us in the matter of the injunction: Bailey, Baugh, Davis, McMillin, Murphy, Rice, Thomas, Watts and Woods.

In the House, the following were with us throughout: Arnold, Avis, Baldwin, Barrett, Beasley, Bell, Blount, Bonham, Carpenter of Dallas, Carter of Coke, Carter of Hays, Covey, Culp, DeBerry, Dinkle, Dodd, Driggers, Dunlap, Dunn, Durham, Fugler, Green, Hardin of Erath, Hardin of Kaufman, Harrington, Hughes, Hull, Irwin, Jennings, Kemble, Lackey, Lamb, Looney, McBride, McDonald, McKean, Martin, Mathes, Maxwell, Melson, Merriman, Miller, Moore, Morgan of Robertson, Pate, Patman, Pedue, Pinkston, Pool, Sanford, Satterwhite, Shearer, Smith, Stewart of Reeves, Stiernberg, Stroder, Teer, Thrasher, Vaughn, Wallace, Wells, Wilson and Young.

The following were against us on practically all counts, so far as the record goes: Atkinson, Bird, Brady, Bryant, Burmeister, Carpenter of Matagorda, Collins, Crawford, Davenport, Davis, Deilmann, Downs, Fields, Houston, Howeth, LeStourgeon, Lewis, McFarlane, McNatt, Montgomery, Morgan of Liberty, Potter, Stell, Thompson, Turner, Wessels, Willmans and Winfree.

The following were with us in the main, but departed from the faith on the subject of christian science or chiropractic, or both: Amsler, Baker of Orange, Barker, Carson, Cowan, Edwards, Finley, Gipson, Henderson of Marion, Jacks, Laird, Lane, Loftin, Patterson, Rountree, Russell of Trinity, Shires, Simpson, Sparkman, Stevens, Stewart of Jasper, Storey and Westbrook.

The following had objections to the injunction feature (perhaps christian science and chiropractic also): Edwards, Faubion, Harris, Henderson of McLennan, Hendricks, Jones, LeMaster, McDaniel, Pope, Quinn, Rice, Russell of Callahan, Sackett, Stewart of Jasper.

The following were against us in general, but voted either for engrossment or final passage, or both: Amsler, Brady, Burmeister, Downs, Edwards, Finley, Harris, Houston, McDaniel, Pope, Potter, Rice, Robinson, Stewart of Edwards and Thompson.

There were a number of others who were either very friendly or the reverse, who were either absent or present and did not vote on one or more of the issues.

It will be perhaps of interest to compare the action of the holdovers. In doing so it will be appreciated that conditions may have changed and opinions along with them. Of those senators who opposed the Medical Practice Act this time, the following also opposed it before: Fairchild, Floyd, Murphy, McMillin and Watts (although Watts is credited with voting for the bill in the final test).

Among those senators voting for the exemption of christian science before, Bailey (Darwin was absent) and Lewis voted for exemption this time.

The Medical Practice Act did not come to a vote in the House two years ago. Comparisons may not, therefore, be made there. It might be of interest to compare the attitude of those who voted for and against the Medical Practice Act at this time with their attitude on the optometry bill before, although there was such confusion when that vote was taken that the test is hardly a fair one.

How well county societies carried out the advice of our committee last year in the matter of educating the prospective legislators, may be estimated from the fact that of the 72 members of the Senate and House returned, 36 are considered as favorable to our contentions, 18 favorable in part and in part disagreeing, and 18 unfavorable. Time will not permit us to analyze the situation further.

Just here, we desire to direct attention to an error which occurred in the March JOURNAL, page 569. The first column of the page concluded a controversy between Mr. Lewis, who was speaking for the elimination of the injunction feature of the bill, and against the bill in general, and several friends of the measure. The remarks of Mr. Lewis were concluded in the fourth full paragraph on that page. Mr. Melson then took the floor and delivered the splendid address in answer to Mr. Lewis, which followed. This correction should be made, in the interest both of Mr. Lewis and Mr. Melson, each of whom will desire, no doubt, to have his attitude understood.

In this connection, also, the committee desires to acknowledge the friendly attitude of Representative T. P. Hull of San Antonio, who has come under criticism because of failure to vote on several of

the controversial features of the bill. He was absent when these particular votes were taken. There are those who are ready to criticise him for this fact. We desire to disarm such criticism. Mr. Hull was friendly to the bill.

Before leaving this phase of our report, we desire to heartily thank those of our members who answered our call for service. The success of our efforts depended on this support to a degree second only to the publicity campaign. It is true we were disappointed on more than one occasion, that more of our members did not attend our conferences at Austin. These conferences were for the double purpose of assuring the members of the Legislature that the measure we were advocating was a real demand, and for determining policy. Always, the Board of Medical Examiners was a party to these conferences; in fact, theirs was the lead, but the fact that the Regular (so-called) school of medicine comprises the great bulk of the medical profession placed our organization in the ascendancy, so far as influence was concerned. Quite frequently the laity was represented in these conferences. In practically every instance some important matter had to be decided. For instance, the matter of agreeing to exempt the optometrists from the bill, which was done in view of the fact that there is a State law authorizing this group to practice such of medicine as is involved in the quasi profession of optometry. The matter of compromise with the christian scientists, in like manner exempting them from this bill, had to be decided. Verily, the conferences were important, and for that reason those who attended have the profound appreciation of the Council. Time will not permit us to go more into detail.

Perhaps we should not close this phase of the discussion without extending our heartfelt appreciation to the "steering committee" having charge of the bill in the House. In the Senate there was no particular difficulty in this regard, and no great demand for this character of service. In the House the story was quite different. Because of the large numbers involved, and the difficulty in getting the ear of those who should hear, as a matter of practice it becomes necessary for the friends of any measure to organize for the purpose of bringing it to the favorable attention of those who are not acquainted with the merits of the measure and who must vote upon it. We refrain from publishing the names of this steering committee, not fully understanding the propriety of such action and knowing the personnel only of its most active members. Probably few measures have of late had such devoted friends as this one had. They seemed to appreciate the importance of and the crying demand for such a law.

Following the passage of the Medical Practice Act Amendments, the fight shifted to the office of the Chief Executive. There was never any doubt in the minds of the Council as to the views of the Governor, and it was felt from the beginning that he would sign the bill. However, the pressure to have him veto the bill was enormous. The Council assured the Governor that no concerted steps would be taken to flood his office with telegrams, letters and petitions, unless he desired it. He did not desire it, and it was not done. The needed information was placed in his hands, and he well reasoned that any amount of influence brought by the opposition could be more than met by the friends of the bill. He signed the measure, and thus placed the capstone on the arch so well built in 1907. The gratitude of the medical profession and its dependent public is due the Governor for this act.

The following measures relating to the public health engaged our attention during the regular session of the 38th Legislature:

Amending the Medical Practice Act.—S. B. 141, by Cousins and Holbrook, and H. B. 272, by Culp, Shearer, Melson, Smith and Dodd, were identical bills. They carried amendments proposed by the State Board of Medical Examiners and endorsed by all of the medical associations at present concerned in the administration of the Medical Practice Act. It has already been referred to extensively in this report. The Senate bill was pushed to final passage and became a law.

Another measure, known as S. B. 87, by Wood, provided for certain amendments to the Medical Practice Act, which were subsequently included in the larger measure. The bill was allowed to die on the calendar.

Licensing Chiropractors.—This effort was made through S. B. 159, by McMillin and Watts, and H. B. 223, by Davenport, Turner, Collins and Lewis. This measure received considerable attention in the JOURNAL It is sufficient to say here that it provided for licensing chiropractors through a chiropractic board, with examination on the subjects of "anatomy, physiology, symptomatology, hygiene, chiropractic principles and technique, vertebral palpation, chiropractic neurology and chiropractic analysis and adjusting as taught by chiropractic schools and colleges." The provisions for controlling examination were very lax, so much so that even this low standard could hardly be maintained. The definition of chiropractic was set out as follows:

"Any person shall be regarded as practicing chiropractic within the meaning of this Act (a) who shall either publicly or privately profess or represent himself to be a chiropractor, and shall adjust or rearrange, attempt to adjust or rearrange, or offer to adjust or rearrange, by the use of his hands, any of the several vertebrae of the spinal column, of a human being, or (b) who shall adjust or rearrange, attempt to adjust or rearrange, or offer to adjust or rearrange, by the use of his hands, any of the several vertebrae of the spinal column, or any of the articulations of the spinal column, of a human being, and shall charge therefor, either directly or indirectly, money or other compensation."

Except for the violation of the single standard principle, and the low, standard, this measure was fairly good of its class. It attempted to follow the Medical Practice Act in many important particulars. It was clear that this measure would make an unconstitutional law, and would be unsafe and unjust. Through no conceivable administration of such a law could the public health be safeguarded. Through no line of argument could such discrimination against the medical profession, without referenec to schools, be warranted. Regardless of the theory upon which chiropractic is based, the fact remains that the chiropractor professes to do the same thing that the practitioner of any so-called school of medicine does. Hence the danger to the public health and hence the discrimination. No further discussion of this bill will be indulged in, in view of the fact that it has already been referred to extensively in the JOURNAL.

The Senate bill scarcely got out of committee. The House bill came up for engrossment and was tabled by consent of the principal author, Mr. Davenport, evidently with the intention of permitting the passage of the Medical Practice Act first, thereby creating an emergency and a danger to what the friends of the measure would denominate vested interests. This was the strategy practiced by the optometrists in the previous Legislature. Thus, the success of that measure, under the circumtsances, has proven a great encouragement to all substandard educational efforts. It was recognized that the bill had no chance to pass the Senate, anyway, and time was needed there for propaganda. Indeed, the chances for this bill passing

the House were very slim, even with the anticipated plea at hand. The vote on chiropractic exemption makes this conclusion rather clear.

The hope is, of course, that the Governor will submit chiropractic to the present called session of the Legislature, again relying on the precedent in the optometry case. The plea is being made that the injunction feature of the recently enacted amendments to the Medical Practice Act will put the chiropractors out of business, thereby destroying their privilege of making a living. We are informed that 72 members of the Legislature (whether Representatives, or both Representatives and Senators, we do not know), have signed a petition praying the Governor to submit chiropractic as a subject for legislation at this called session. The fact is overlooked, apparently, that the chiropractor has never had a legal right to engage in his vocation in this State without taking the examinations prescribed by the State Board of Medical Examiners. His plea in opposing the Medical Practice Act was, that the injunction feature of this law would prevent him from violating the law with impunity. That is still his plea. It is not believed that the Governor will permit himself to be made an accessory to such a crime against reason, common-sense and the welfare of the public, leaving out of consideration altogether the interests of the medical profession.

Licensing Chiropodists.—For several sessions of the Legislature the Council has been confronted with bills for licensing chiropodists. There has never been any real antagonism towards these people. They have been looked upon as in the class of the barber, manicurist and the beauty specialist. Opposition to their measure has been rather casual and never very active. It has been recognized that to license the chiropodists under the same plan as followed in licensing practitioners of medicine, would not be a desirable thing to do. It has been thought rather that those following this occupation should be controlled, on a sanitary basis, by the Board of Health. When this measure was introduced (in both instances by friends of legitimate medicine, S. B. 303, by Cousins, and H. B. 487, by Shearer), we explained our position to all concerned and we thought it was understood that the measure would be held in abeyance until an agreement could be reached. This was done so far as the Senate bill was concerned, but the House bill became a law. It passed the Senate during a period of time when Senator Cousins, the author of the Senate measure, was temporarily absent. It is just one of those things which will happen in the best regulated battles.

Aside from the fact that this law extends the protection sought for on a basis which we consider unfortunate, the difinition of chiropody makes the law an invasion of the field covered by the Medical Practice Act. In other words, under this definition the chiropodist is practicing medicine. The definition is, "Chiropody shall, for the purpose of this Act, mean the diagnosis, medical and surgical treatment of ailments of the human foot. Chiropody shall mean one practicing chiropody." The law is doubtless unconstitutional. It is to be hoped that the chiropodists themselves, who give every evidence of desiring to co-operate with the medical profession, will eventually agree to have the protection that the medical profession has already agreed that they should have, through the Board of Health rather than the Board of Medical Examiners.

Regulating the Practice of Professional Nursing — This is an undesirable piece of medical legislation. The Council did not hesitate to express its opposition to the measure, but it was not considered of sufficient importance to enter into an organized campaign against it, particularly in view of the overshadowing importance of the amendments to the Medical Practice Act, the chances for the passage of which might have been adversely affected had we done so. This measure was introduced in the Senate by Senator Dudley (S. B. 40) and in the House by Representative Shearer and others (H. B. 187), both acting in perfectly good faith, of course. The bill was of such nature as to easily mislead the casual observer, particularly among doctors, who are constitutionally and chronically friendly to the nurses. In the main, it was a good bill, and insofar as it tended to maintain standards on a fair basis, it received our support. However, it seemed to get the cart before the horse. The authors of the bill seemed to overlook the fact that the nurse has no status before the public—at least she should not have. She is educated and trained for the convenience of the doctor in serving the public. As a practicing, bedside nurse, she takes orders from no one else. In view of that fact, her education should be under the direct control of the doctor, whom she must serve. The intention of this bill was to place the training of nurses under the indirect if not the direct, control of the nurses themselves. There has been no real objection raised to boards of examiners made up of nurses, to which practice opposition could have well been advanced, as for that. One of the objectionable features of the original bill was, that the preliminary standard of education was impractically high just at this time and in this State. There is no objection, of course, to high educational requirements, unless they should so reduce the number of nurses as to cripple the practice of medicine. It seems that the law as finally passed carried no requirements of this character, leaving the matter in the hands of the board. It is required, however, that a nurse be a graduate of a training school approved by the board, which in effect leaves it up to the board to establish the entrance requirements and the course of teaching. It is clear that if the Board of Medical Examiners chooses not to approve the course given by some of the smaller hospitals, the said smaller hospitals will have a hard time getting student nurses, and some institutions which are at the present time rendering a real service to the public may have to close.

The most objectionable feature of the law is the "Educational Secretary," whose duty it shall be "to visit all schools of nursing in the State at least once a year to confer with superintendents of hospitals and superintendents of nursing schools as to the system of instruction given and as to accommodations and rules governing said schools in reference to its students." There is no law to make the hospital do what this educational secretary says, but it is clear the amount of trouble that could arise under certain circumstances. We hope, and are of the opinion, that the good sense of the nurses of Texas will lead to such administration of this law as not to interfere with the all important business of healing the sick. It would be exceedingly unfortunate if just at the time the medical profession is swinging away from the tendency to so specialize as to place itself beyond the reach of the people it must serve, the nurses should increase their speed in that direction. It would be far better for them to learn from our experience. We have no more need of super-nurses than we do of super-doctors. We need experts in both vocations, and they will be forthcoming as required.

There is no interference with the practical nurse in the bill which passed. Annual registration is required, on a very modest financial basis.

Amending the Pharmacy Law.—S. B. 361, by Senator Lewis, and H. B. 555, by Representative Robinson, had for their intention the limitation of the

annual registration fee for pharmacists, which many members of that profession believed to be unusually high, if not entirely unnecessary. It seems that the State Pharmaceutical Association received a portion of the renewal fees. No doubt pharmacists who are not members of the organization have an objection to that feature of the bill. However, upon representation of a large number of pharmacists, these bills were withdrawn.

Amending the Veterinary Law —S. B. 310, by Senator Parr, had for its object such revision of the Veterinary Practice Act as would permit persons who had practiced veterinary medicine or surgery as their principal occupation for five years prior to 1911, and who had failed to qualify under the laws then existing, to qualify at this time and be legalized. In effect, this revision would have subjected the law to many abuses and would have distinctly lowered veterinary standards. We know nothing of the purposes of the author, of course, but assume that his intentions were of the best. However, it is exceedingly unfortunate when standard laws have to be modified to meet individual cases, no matter how meritorious such cases may be. In a democracy the greatest good for the greatest number must always be the guiding principle. We opposed this measure without reserve. It failed to pass.

Eugenics.—Three bills having to do with the subject of Eugenics were introduced, namely, H. B. 21, by Dodd; H. B. 86, by Wilmans, and H. B. 88, by Baldwin, Shearer and Wallace. The first named bill was never printed and no effort was made to push it. The second was given the right of way, and if any measure of this sort could have passed, no doubt this one would have become a law, largely, we are convinced, because its author was the only woman in the Legislature. The bill provided that no marriage might be consummated without a certificate of "at least one duly licensed physician, showing that the contracting parties are not feeble-minded, imbeciles, epileptics, insane persons, common drunkards, or persons afflicted with pulmonary tuberculosis in its advanced stages." It was also required to show that both contracting parties were not afflicted with any contagious venereal disease. Any physician "misstating the condition of health of the parties for the purpose of assisting in fraudulently obtaining a marriage license, shall be guilty of a misdemeanor," etc. This bill struck the Council as being somewhat in advance of the possibilities and more or less impracticable. There is danger in making a mistake in diagnosis a violation of law.

H. B. 88 was by far the most practicable of the three measures submitted on this subject. It was, in fact, a revision of a subcommittee bill prepared in the Thirty-seventh Legislature, the authors having been members of the original subcommittee which studied this problem at some length. This bill provided that only the male party to a marriage be required to have a certificate, and that the certificate should be by a reputable, licensed and regularly practicing physician and signed upon his "personal and professional honor," setting forth "unequivocally" that the said physician did "make an examination * * * * for the specific purpose of ascertaining and determining whether or not such named person was at said time afflicted with any contagious or communicable venereal disease." It was required, further, that the statement be incorporated in the certificate that the examination made by him was as thorough and adequate as could be made by the physician signing the certificate, and that the individual was not, in the opinion of the physician, at the time of examination afflicted with any contagious or communicable venereal disease. It will be realized that these provisions are rather loose and could not be considered as sufficient to control the problem with certainty, but it is probably true, as the authors stated, that the first efforts along this line must be educational, and it would be manifestly out of the question to expect the people at this time to require the women to undergo the necesary examinations, and as well unfair to require the doctor to make the very technical examinations required to determine even the existence of a venereal disease with any considerable degree of certainty. The whole problem would hinge on the reliability of the medical profession as a whole. The crook would not hesitate to give a certificate, just as he does not hesitate now to give a whiskey prescription if he has the right, or to testify in court for the side that pays him. The honorable physician would be embarrassed and would be placed in an unenviable position should a good friend and well-paying patron who is afflicted, or has been afflicted, should ask for a certificate. We were not invited to participate in this legislation, but gave our endorsement to the last named measure.

Marriage and Divorce.—H. B. 568, by Dodd, provided that all marriage and divorce be made of record in the Bureau of Vital Statistics and that reports be made to the State Board of Health on blanks prepared by the Board. The evident desire of this bill was to correlate the data pertaining to marriage and divorce with birth records in particular. The bill was lost in the shuffle. While the idea involved was perhaps a good one, it is questionable whether the Board of Health should seek to entangle itself in such matters just at this time.

A Court for the Feeble-Minded was provided for in S. B. 321, by McMillin (by request). This bill simply provided an established method of committing feeble-minded persons to the State Colony for the Feeble-Minded, and is doubtless a good thing. It became a law.

Care of the Insane.—S. B. 47, by Murphy, and H. B. 11, by LeStourgeon, provided that persons held to be of unsound mind shall not be confined in jails where there are city or county hospitals, and requiring these institutions to accommodate such persons. This bill was introduced at the instance, we understand, of one of the women's clubs of the State, and it became a law, but was vetoed by Governor Neff. It was clearly an impracticable thing to require, and untimely. We contented ourselves with giving this opinion of the measure.

Sheppard-Towner Co-operation was provided for in S. B. 61, by Wood and Dudley, and H. B. 103, by Dodd. By the provisions of that bill we are authorized to take down our share of the spoils. No specific amount was appropriated with which to pay our part. The Bureau of Child Hygiene was authorized to spend the money, and it was provided that no one shall have the right to enter any home over the objections of parties entitled to make objections. Our Council had no sympathy with the Sheppard-Towner bill but did not feel justified in opposing the measure, because of the evident need of the Health Department of the additional funds involved.

Embalming.—H. B. 558, by Culp, sought to revise the law relating to embalming. It failed to pass.

Amending the Maternity Home Law.—S. B. 172, by Stuart, carried some very helpful amendments to the State law relating to maternity homes and baby farms. The old law is deficient. This bill should have been passed, but failed to get by. It was prepared by our Attorney General, upon the request of parties interested in such matters, and received our warm endorsement. We were not in a position to push the bill. It carried the added requirement that each institution provide an operating room

so constructed as to be easily cleaned; that this operating room be kept in good sanitary condition and that it be provided with such equipment as might be necessary for the proper treatment of women during labor, or any emergency incident thereto. The further provision was added that no one might solicit or receive, directly or indirectly, any money or other thing of value for receiving or adopting children born out of wedlock, except upon permit issued by the State Board of Health. This requirement was aimed at the practice prevailing at this time of peddling babies over the State and in general using the unfortunate situation resulting from their presence in the world, for the purpose of fleecing charitably inclined and kind-hearted people out of money and other things of value.

Contagious Diseases were defined in S. B. 309, by Bledsoe, as including the following: Asiatic cholera, bubonic plague, typhus fever, yellow fever, leprosy, small-pox, scarlet fever, (scarlatina), diphtheria, (membranous croup), epidemic cerebro-spinal meningitis, dengue, typhoid fever, epidemic dysentery, trachoma, tuberculosis, anthrax, chicken pox, influenza, lethargic encephalitis, malaria, measles, mumps, pellagra, pneumonia, poliomyelitis, human rabies, para-typhoid and whooping cough. It seems that the State laws are rather deficient in this particular. Through lack of interest and opportunity the bill failed to pass.

Sanitation of Rent Houses was provided for in S. B. 156, by Senator Doyle. Under this bill landlords were required to have their tenant houses thoroughly fumigated and cleaned and the premises cleaned when changing occupants. While the efficacy of fumigation under such conditions might be seriously questioned, there is no doubt the cleaning process would be very beneficial. This bill failed of passage.

Public Health Nurses for Counties were authorized in S. B. 218, by Murphy. It seems that counties may not at this time appropriate money for the purpose of employing public health nurses, although why they should not be allowed to do so is not understood by us. This bill did not pass. It should have, with modification, been made into law. The modification we would suggest would be to place such nurses under the direct jurisdiction of health officers or boards of health, rather than that they work in "co-operation" with those officials. The bill would make it the duty of the nurses to visit public schools and investigate conditions and sanitary surroundings of the school, and personal and physical health of the pupils therein. It would perhaps be better to *authorize* them to do this rather than to *direct* that it be done.

Mosquito Eradication was provided for in H. B. 413, by Lane. The specific purpose of the measure was to prevent and eradicate malaria and dengue fever and prevent yellow fever. An appropriation of $7,500 for the balance of 1923 and $10.000 for 1924 was made in the bill, and the State Health Officer was authorized to accept donations from whatsoever source for the promotion of this work. The bill became a law.

A State Board of Water Examiners would have been established had S. B. 212, by Stuart, become a law. The board would consist of three members, one of which would be the State Sanitary Engineer, another a professor in a State institution of higher learning who has devoted special attention to water analysis and purification, and another a filter-plant operator of not less than five years experience. This board would prescribe a standard of efficiency for those who would engage in the operation of waterworks plants of water-purification plants. It made an exception of "artesian water or water delivered to the public in bottles." Why it should have done this, we do not know. It is our opinion that it is of importance to control the purity of water sold and handled in this manner. It was made the duty of the board to render three short courses of instruction of not more than two weeks duration, at convenient points and intervals—as is now being done, as a matter of fact. Annual registration would be required. The bill received our approval.

Plumbing.—S. B. 286, by Stuart, would have amended the present law on the subject of plumbing. The bill provides for a State plumbing inspector at a salary of $2,500, who shall have had at least ten years experience, either as a master plumber or journeyman plumber. He would attend to the details of licensing plumbers and inspecting plumbing coming within the purview of the bill. He would operate under the State Health Officer, who would have the authority to amend the rules and regulations governing plumbing, sewerage and plumbing ventilation in connection with all State buildings, and prescribe minimum standards, required to be uniform throughout the State. The bill would exempt localities attending to their own plumbing, and would give the State Health Officer the power to revoke all plumbers' licenses. There was no provision for licensing plumbers on a substandard basis—those who do not believe in the accepted facts of science as they relate to such matters. In fact, no effort was made to do this, as in the case of the Medical Practice Act. The bill failed to pass.

Sanitation of Bakeries was dealt with in H. B. 28, by Hull, which was killed in committee.

Sanitary Requirements of Bottling Plants were set out in S. B. 170, by Witt, and H. B. 315, by Martin. This bill would have required bottling plants to install smooth, properly drained floors of concrete or other like material, where wastage is likely, and in general require the rules of ordinary sanitation in the preparation of soft drinks. It was a good bill and should have become a law. It passed the House but did not get by the Senate. Fear was expressed that it would put some of the bottling plants out of business. That is, of course, a matter of greater importance than that the people should be made sick.

Sanitation in the Manufacture of Bedding, was dealt with in S. B. 255, by Clark. This bill would require the manufacturers of bedding to use material free from contagion and to so designate by affidavit attached to each piece, such as mattresses, pillows and the like, clearly setting out the composition and circumstances surrounding manufacture. It did not become a law.

Milk.—S. B. 375, by Ridgeway, would have forbidden the manufacture of milk by artificial or mechanical means, had it become a law. It died on the calendar. It did not concern itself with the purity of milk.

Self-Rising Flour.—S. B. 62, by Wood, and H. B. 50, by Dodd, introduced at the request of the Pure Food Department, became a law. It relates to any compound so termed or styled, and requires the production of not less than one-half of 1 per cent by weight of carbon dioxide gas, and prohibits more than 3½ per cent of chemical leavening ingredients. It is required that flour be of the grade of "straight," or better, and that the leavening ingredients be bicarbonate of soda, and either calcium acid, sodium aluminum sulphate, cream of tartar, tartaric acid or combinations of these.

Workmen's Compensation Law was amended by the passage of H. B. 95, by Rogers. The amendments were not of such nature as to greatly concern the medical profession. They will be referred to in the

report of the Committee on Compensation and Health insurance.

The Council has had under consideration many suggestions for revising our public health laws. The most pressing of these is the need of increasing the salary of the State Health Officer. It is becoming notorious that this important office must be filled either by a physician of little learning in the public health field or one who must make a real sacrifice to hold the position. That we have been rather fortunate in the matter of health officers is not the point. It is an unwise thing to do to always depend on good fortune. Quite a few of the provisions of the Board of Health law might be changed to advantage, but the whole truth is, that a concerted, carefully studied line of action should be adopted, whereby in time a comprehensive and co-ordinated group of public health laws might be presented to the Legislature for adoption, and the necessary educational effort put forth in sufficient time to popularize the proposition. We have repeatedly advised legislators to this effect, and urged that a joint resolution, or something of the sort be put through, providing for such an investigation. It is unprofitable to attempt a thorough revision within the limit of a single session of the Legislature, and it is hardly more profitable to continue the patchwork process of revising these laws.

The proper care and treatment of the insane has been a burden to the State Medical Association for many years. For a long time a committee on that subject was maintained. This committee was abandoned after the constitutional limitations and the chronic indisposition of legislators to give study to problems of this sort became apparent. President Bennett's address at El Paso, last year, dealt with the subject of psychopathic hospitals. We took his plea to the Board of Control, and found that the Board had already provided an appropriation of $100,000 for a psychopathic hospital, to be attached to the asylum at Austin. This was in line with our suggestion, as a start, except there is no provision made for "volunteer commitment," which will be necessary if an important phase of the problem is to be met. It is not with us purely a matter of getting the insane out of jails and into institutions where they may be made more comfortable. Prophylaxis is the word, and it is thought that by the establishment of a suitable number of psychopathic hospitals, with some sort of provision for commitment without going through the odium of a trial by jury, from 25 to 50 per cent of the number now coming to final incarceration in the insane asylums of our State could be cured. We have advised that a commission be appointed to study the subject and make a survey of the State and prepare the necessary laws to cure the trouble.

Sufficient interest could not be aroused in either of these problems during the busy regular session, particularly in view of our preoccupation with the amendments to the Medical Practice Act, and we had hoped that this matter could be attended to in the anticipated called session. As this report is being written, the called session is well under way. We have not dared ask for the consideration of either of these projects, for the reason that should either subject be submitted, the submission of a chiropractic bill would certainly follow. With a petition bearing the names of 72 members of the Legislature in the hands of the Governor, praying for the submission of such a measure, we anticipate a very disagreeable fight should the chiropractic bill be introduced. We are informed that the chiropractors have employed some of the most capable "legal advice" in the State, looking to the persuasion of the Legislature that a chiropractic board of examiners could with propriety and in the light of the constitution, be enacted into law. We are told that this has cost considerable money. We have already spent as much money as we feel justified in spending in protecting the public against this sort of imposition, and we hesitate to ask the Board of Trustees for more. We do not feel that we can match the chiropractors dollar for dollar, or that we should attempt to do so. We feel, therefore, that our best policy is to lie low for the present. We do not believe that the Governor will submit chiropractic to the called session as a subject for legislation, but in his desire to cure the defects already mentioned in the Public Health Laws of the State, he may possibly recommend something of the sort. If he does, the fat is in the fire and another blaze will have to be extinguished.

With apologies for this necessarily long report, we beg to submit the following recommendations:

1. That the Association go on record as opposing any law or any amendment of any law, which would permit the issue of license to practice medicine, or any part of it, on a basis lower than that set out by the present Medical Practice Act; in other words, any system of multiple boards of medical examiners, and that the Council on Legislation and Public Instruction be directed to co-operate fully with any proper agencies in the defeat of any such effort.

2. That a campaign of public education be conducted on the whole problem of the practice of medicine, the status of the cults and sects in medicine, and the effect on the public health of quackery and medical incompetence, whether through ignorance or desire to defraud.

3. That these efforts to educate the public involve (1) a systematic education of the medical profession and the development in each county society of at least one intelligent, eloquent and highly educated specialist on this subject; (2) the organization of the public health societies (or whatever they may be called) heretofore planned by the Board of Councilors and under the supervision of that Board, and (3) the establishment of contact between the medical societies, the public health organizations just referred to and such other organizations as may have to do in part with the welfare of our people, that the necessary information be passed along and interest aroused.

4. That the Council be authorized to join in a conference with the State Board of Health and all other agencies interested in such matters that may be agreeable to the State Board of Health, in formulating a series of public health laws calculated to adequately care for the health of our people for some years to come, including the problem of mental hygiene and the care and treatment of the insane.

Respectfully submitted,

JOE BECTON, Chairman,
HOLMAN TAYLOR, Secretary,
C. M. ROSSER,
A. F. BEVERLY,
A. C. SCOTT.

The report was referred to the Reference Committee on Reports of Officers and Committees.

The President: Next is the report of the Council on Medical Defense.

Dr. W. D. Jones of Dallas: This is about twelve years that I have served on this committee, three years before Medical Defense was adopted. This is my ninth report as chairman of the Council. For the first time, I am somewhat alarmed. We have had eighteen suits filed in the last year, nearly twice as many as for any year in the last nine years, and damage suit lawyers are watching us. We find, unfortunately, that occasionally a doctor goes in where a colleague has been, and, after examining

the case, throws the medicine out of the window, or shrugs his shoulders or turns up his nose. He might just as well have made the worst sort of indictment of his colleague. We also find that there are doctors who not only encourage trouble but actually make exhibitions of the mistakes of colleagues. Modesty, if nothing else, should prevent such a thing. In some states, when the surgeon signs a chart in the operating room, if the nurse who has charge of the sponges has not made a note, over which he places his signature, that a certain number of sponges are missing, the doctor himself is relieved and the institution is held more responsible than the physician for subsequent trouble. Sponge cases are very dangerous.

This is the first report in which we have had to acknowledge even partial defeat. We had to try one case twice because the trial judge gave a new trial, but we won it both times. In one case the physician won and the plaintiff appealed. Two cases are on appeal in which damages were awarded. It is generally known that doctors carry insurance. It is a mistake to let such be known. It is a worse mistake to assume that because a doctor is insured that a suit against him won't hurt—that the insurance company pays. It should be considered a breach of ethics for a physician to inform a former patient of a colleague that said colleague carries indemnity insurance. That has been done, no doubt, but on the whole, the profession has stood by us.

While we have a little surplus on hand, suits on hand have cost us a great deal more this year than before. We have paid out twice as much in lawyer fees, simply because the plaintiffs have been pushing their claims. Aside from that, we have helped in the Legislature. We feel that it is a part of our duty to look after the Medical Practice Act. Interest on our surplus is the only thing that save us from going into the red to the extent of $280.00 this year.

Report of Council on Medical Defense

The Council on Medical Defense submits its ninth annual report, as follows:

The Council held one meeting, in Dallas, October 17, 1922, at which Judge C. T. Freeman, who had been acting as General Attorney for the State Association since the death of Judge Wolfe, was elected General Attorney.

There has been much activity since our last report. Much work has been done, and further on it will appear that there is plenty of unfinished business.

Your Council was shocked and grieved to learn of the sudden death of Judge Wolfe, which occurred May 16, 1922. A splendid tribute in memory of the eight years of service he had rendered as General Counsel appeared in a recent issue of the Journal. Your Council has felt keenly his loss. We had learned to rest our case with him, and his decisions with us were supreme and final.

The Council was fortunate in securing the services of his partner, Judge C. T. Freeman of Sherman, who was already familiar with our work and the duties of this office. Not until after we had selected Judge Freeman did he tell us it was Judge Wolfe's wishes that he should succeed him. It may not be generally known, but the amendments to the Medical Practice Act, recently adopted, were in a large part written by Judge Wolfe, and failed of passage in a former session of the Legislature. The last bill was rewritten by Judge Freeman and the Committee on Legislation, in co-operation with the State Board of Medical Examiners, which latter body deserves great credit for its enactment into law. We believe we now can accomplish something in the way of ridding the State of illegal and incompetent practitioners.

While we usually refer to the Auditor's report for information concerning the financial condition of the Medical Defense Fund, we feel that a brief discussion of the subject just here will be advisable. This was a legislative year, and it required much work of the officers of the State Association. Expenses for perfecting and getting legal advice on the Medical Practice Act had to be met and our funds have been heavily drawn upon for this purpose.

Eighteen suits for malpractice have been filed since our last report, more than for any one year since the adoption of Medical Defense. We have paid out more money for attorney's fees this year than for any previous year. In fact, had it not been for the interest we received on our surplus we would have had a deficit of $282.31. In other words, we spent $3,958.31 and received from dues, $3,676.00. Interest on the Medical Defense Fund for the year amounted to $741.70, making the total amount received for the fund, $4,417.70. Deducting the expenses from the total income, leaves a balance of $459.39.

The expenses for legal advice and legal enforcement, were of a nature calculated to benefit each member of the Association. Each member has contributed his part through this fund, and should feel pleased that he did so instead of allowing the burden to fall upon a few who were willing or could be made to pay. Should this Association ever repeal this department, which it cannot afford to do, a legal department with a fund to take care of such contingencies as have arisen this year will be necessary.

This report is unusual in many respects. In fact, it is so unusual and unlike our former reports that we would like to exclude our next paragraph.

For the first time since the adoption of Medical Defense, we have had three cases on appeal from the District Court, two in which the plaintiff was awarded judgment against the physicians, one for $15,500.00 and one for $7,500.00. In the other case, the physician won in the District Court and the plaintiff appealed. We expect and hope to have the judgment of the lower court reversed in the two cases where damages were awarded, and affirmed in the cases where the plaintiff appealed. The two cases lost in the lower court are likely to cause an increase in the number of cases filed.

May we again warn, admonish or advise (or call it whatever you please), our members to be careful not only as to what they say to former patients of a colleague but how they act, for actions sometimes make a greater impression than words. We believe that a physician in whom a patient has confidence can prevent, in nearly every instance, the patient from suing for malpractice. The Principles of Medical Ethics should at least restrain us. I quote from Article 4, Section 5, as follows: "The physician should not make damaging insinuations regarding the practice adopted, and, indeed, should justify it if consistent with truth and probity." I do not take it that this section means we cannot criticise one another or make exhibition of specimens of mistakes, before medical societies, but it certainly means that we should avoid such actions before relatives of patients or before laymen.

At the time of making our eighth annual report, 17 cases were pending, alleging anything and everything from child-birth to giving too much medicine, and including negligent homicide. The Council has never tried to figure up the grand total of the amount wanted. Four cases have been disposed of in favor of the defendants, and we feel sure three-fourths of the remainder will never be tried.

Since our last report, 18 cases have been filed, up to April 1, 1923. Of these, three have been disposed of in favor of the defendants. In two, damages were awarded the plaintiff and are now on appeal. We hope to have the higher court reverse them.

We now have 28 cases pending, including 13 old cases brought forward and 15 new cases. As stated,

many of these cases will never come to trial, and we advise those who have cases pending not to encourage speedy trial, for more reasons than one. Suffice to say that the longer the case stays on the docket the less interest the plaintiff will manifest in it.

We express our sincere appreciation of the valuable services rendered by Judge Freeman, our General Attorney. He is always ready to advise with you when in trouble, and to serve us in any way possible.

Respectfully submitted,

W. D. JONES, Chairman,
HOLMAN TAYLOR, Secretary,
A. P. HOWARD,
F. P. MILLER.

The report was referred to the Reference Committee on Finance.

The President: The Committee on Scientific Work.

Dr. John T. Moore of Houston: This is one part of the program that I fell down on. I came to Fort Worth last Wednesday intending to get this and the report of the Trustees in the hands of the Secretary, that they might be published. The train was late and I got in at twelve o'clock instead of at eight. I got word that the chiropractor bill had been introduced in the Legislature. Doctor Taylor and I agitated for a little while and organized ourselves. By the time we got the report of the Board of Trustees shaped up, I had to get off and do what the President said—get up an immature report.

REPORT OF COMMITTEE ON SCIENTIFIC WORK.

We have carefully considered the duties of the Scientific Committee as it now exists, and beg to make the following recommendations:

1. That the by-laws be so amended as to make the committee "The Council on Scientific Work," to be composed of five members, the President and Secretary of the Association to constitute two of its members, the other three to be elected by the House of Delegates, one to be elected each year, and each member so elected to serve for three years.

In this manner, the Council would be a continuing body, which could make and carry out definite plans for the scientific work of the Association. With such a plan, carried out, the Council could accomplish something of value. As it is now, the committee is an ever changing one, without any definite policy or thing to do.

This recommendation is in line with the suggestion made by Dr. Walter Shropshire, chairman of the committee last year, and the Reference Committee to which his report was referred. We consider that there is a definite and well defined opportunity for valuable work for the Association were the Council made up of thoroughly qualified men in scientific lines, and with a definite and continuous policy before them, as is the case with our Council on Medical Defense.

The Council on Scientific Work ought to handle all matters relating to the scientific program, scientific exhibits, postgraduate courses that are planned to be given by the two medical schools, the encouragement of research work, and especially should it stimulate county societies to produce more and better papers and programs.

This Council, acting in conjunction with the President, who is a member, should plan a definite program of subjects to be presented by invited guests, who are to be speakers before the Annual Session. What I mean to say here is, that our guests are frequently invited to read papers more as a courtesy to some friend of our President, or some member, when they ought to be selected with some definite educational purpose in mind.

There is need of a revision of the by-laws as relates to scientific sections, which matter ought to be carefully worked out. For example, we have a "Section on State Medicine and Public Hygiene," when a "Section on Public Health" would seem to fill the whole bill. Then again, the "Section on Ophthalmology, Otology, Rhinology and Laryngology," is a cumbersome title and consumes printer's ink. "Eye, Ear, Nose and Throat," would be shorter and more sensible, though some might prefer the longer names. We have a "Section on Medicine and Diseases of Children." Why not just as well have a "Section on Medicine and Diseases of Men and Women?" Better have a "Section on Medicine," and stop there. You get the idea, I am sure.

The postgraduate courses given by the University of Texas and Baylor University, are the products of the co-operation of the Committee on Medical Education, Committee on Scientific Work and the Board of Councilors. We consider this one of our most important pieces of work. It should be warmly encouraged by our Association.

Let me pause here to say that if we are to remain the leaders of medical thought, if we are to stand in close touch with the best interests of the public and the people everywhere, we must be better and better doctors; every day in every way we must grow better and better as diagnosticians, practitioners and surgeons. (Applause.) Everything possible ought to be done to make these courses a great success.

The Council on Scientific Work ought to co-operate with the membership, making use of the books and journals belonging to the Association, for reference purposes. The Scientific Council ought to, in some way, through the co-operation of the section officers, put a premium upon thoroughly worked up and well digested the papers which have been presented to the county and district societies. Many times good doctors present hurriedly written papers, papers which ought to stand over a year and be rewritten before being read before one of our scientific sections. Some of the scientific papers presented have to be entirely rewritten before they can be published. More time spent in writing them would save the editor much time and worry over what was intended to be said by the writer.

The editor showed me the other day some of these papers, and they reminded me of the first paper that I blocked out to write. I usually leave about three or four spaces in between the lines when I write. So I write between every second or third line, and then go back after a few days and either throw the thing in the waste basket or write it over. We should try to make the thing say what we have in mind. A good deal of the time of the editor is consumed in figuring out what we wanted to say, and then when he sends us a proof, we get madder than all out doors because he has presumed to fix up our paper so it would look decent, when we ought to feel under great obligation to him. I remember one of my papers that he mutilated pretty badly, but I decided that he had come so much nearer saying what I had in mind, that I just let it go, and I wouldn't say anything to him about it at all. Sometimes the editor is compelled to refer papers to the Board of Trustees, because they are so outrageously bad that he cannot publish them at all. If we can prepare to co-operate with the editor, we can save a good deal of his time, and get very much better papers in our county and district societies.

Respectfully submitted,

JNO. T. MOORE, Chairman.

The report was referred to the Reference Committee on Scientific Work.

The President: Gentlemen, that is a committee that I thought was very important; I begged Dr. Moore to become chairman of that committee, and I am proud of his report. You will notice, by the way,

that every one who has a report to make refers to the fact that the constitution and by-laws should be changed.

The Committee on Collection and Preservation of Records, Dr. Paschal.

Dr. F. Paschal of San Antonio: Mr. President, the report you have before you. I ask your patience for a few minutes to preface in a brief manner this report. Three or four years ago the House of Delegates passed a resolution authorizing the Board of Trustees to appropriate $2,500.00 for the purpose of collecting data for a medical history of Texas. We have not pushed the matter. As Dr. Taylor can tell you, we have considerable data on hand, and that data has not cost the Association, up to the present time, a single dollar. The time has come when it is impossible for us to go any further without a little money, and we are now asking the Board of Trustees to allow, out of the $2,500.00, a small amount with which to collect data from the archives in the State Library at Austin. I wonder if it ever occurred to you that we can boast of what no other State in the Union can, that out of our profession has come a president of a Republic—the Republic of Texas. Also a Governor of the State of Texas, Governor Throckmorton, was one of the original incorporators of the State Medical Association of Texas. We furnished an Ambassador to the Court of St. James, Dr. Ashby Smith, President of the State Medical Association of Texas somewhere in the 80's. A Lieutenant Governor of the State of Texas was a physician.

I have here a picture of the Doctor President of the Republic of Texas from 1844 to 1846, Dr. Anson Jones. Bear in mind, that while Texas was admitted into the Union in 1845, but the Republic of Texas was not transferred to the Republic of America until 1846. Dr. Jones, at the battle of San Jacinto, fought as a soldier with musket in his hand. After the battle, he ministered to the sick and the wounded. His address, when he transferred the Republic of Texas to the Republic of America, stands out among the classics. We have procured that address, and should the history of Texas ever be published, it certainly will appear in full.

The Board of Trustees, I am sure, is willing to assist us in this matter. We commend them for their cheerfulness in preserving the funds of this Association. We realize that the measure that we are now asking to put into effect will require considerable expenditure of money. When this data has been gathered, it will become a question of assimilating it, and who shall do it? We have two men in the State, as we have said before, who are able and competent to do it, Dr. Holman Taylor and Dr. I. C. Chase, but their time cannot be expected to be given to this work for nothing; they must be paid. It then becomes a question as to how much we shall pay them. Then it becomes a question of careful computation as to how much it will cost to publish that data, and whether the money can be raised by subscription, the book published by some publishing house, or whether it can be published by the State Medical Association and the volume sold at a price to pay the cost of publication.

Report of Committee on Collection and Preservation of Records

Your committee begs to report that it is still collecting data. It expects during the coming year arrangements can be made for the collection of data from the archives in the State Library. This office is replete with valuable and interesting histories of many physicians who played prominent parts in medical and civic afairs of this State. This data can be obtained at a small cost.

The House of Delegates approved our recommendation of three years ago for the appropriation of $2,500.00 for the purpose of assembling data. It rests with the Board of Trustees to approve or disapprove the recommendation made by the House of Delegates. If approved, and they authorize the committee to judiciously expend a reasonable sum of this amount in securing more data, it would materially help the work.

We respectfully recommend the continuance of a committee to carry on the work until the history of Texas medicine and Texas physicians is an accomplished act.

We also recommend that the Board of Trustees appropriate the $2,500.00 and set aside from the amount a reasonable sum for the purpose of pursuing the work of collecting data.

There must be co-operation and concert of action if the purpose for which we are laboring is to be accomplished.

Respectfully submitted,

Frank Paschal, Chairman,
M. L. Graves,
J. D. Osborn,
S. P. Rice.

The report was referred to the Reference Committee on Finance.

The President: Gentlemen, you heard that splendid report, of which we are all proud.

Next is the Committee on Transportation.

The Secretary: Mr. President, the report of the Committee on Transportation will be found in the little book, on page 53. Please take note of the fact that the committee recommends an official route to the annual session of the American Medical Association to be held in San Francisco, June 24-29.

Report of Committee on Transportation

Your committee is again pleased to report having secured the advantages of the "Identification Certificate" plan of purchase of reduced rate ticket to the Annual Session. All that is necessary for a member to do is to secure from the secretary of his county society one of the certificates provided for that purpose, and fill in the blank spaces. Any ticket agent will accept this certificate for authority to sell as many round-trip tickets as needed, at the reduced rate, one and one-half fare for the round trip. In filling in the blanks the purchaser pledges that all tickets purchased thereon are for *bona fide* members of his family, or are actually dependent upon him for support. The State Secretary pays for the printing of these certificates, and sends them to the county societies. The certificates are numbered and a record is kept at the central office of those issued. The date of sale and return limit are unusually good. Tickets will be on sale in all parts of the State May 5, and will continue on sale until May 8. They will be good for return to include May 12.

After canvasing the situation thoroughly, your committee has decided to attempt the organization of a party from Texas for the San Francisco meeting of the American Medical Association, which takes place June 25 to 29. The Fort Worth and Denver City Railway and the Santa Fe Lines, have been selected as the official route, and the itinerary decided upon is as follows:

Leave Fort Worth via F. W. & D. C., 9:45 a. m. Wednesday, June 20.

Arrive Amarillo 9:00 p. m. the same day.

Observation Pullman Car and Dining Car service on this train.

Leave Amarillo via A. T. & S. F., 6:20 a. m., Thursday, June 21.

Arrive Grand Canyon, 8:20 a. m., Friday, June 22

Leave Grand Canyon, 7:25 p. m., Friday, June 22

Arrive Los Angeles, 9:15 p. m., Saturday, June 23

The Fred Harvey Dining Service will be used on the Santa Fe trains. Thursday, breakfast will be at Clovis, N. M.; luncheon at Vaughn, N. M., and dinner at Belen, N. M. Friday all meals will be at Grand Canyon. Breakfast Saturday will be at Kingman, Arizona, and luncheon at Barstow, California.

Out of Los Angeles, passenger may be routed by rail either through the center of the state or by way of the coast, or they may go by steamer. The steamer leaves Los Angeles harbor at 4:00 p. m., Sunday, June 24, arriving at San Francisco at 10:00 a. m. Monday, June 25. Dinner and breakfast will be served on the ship. Passengers may leave by rail Sunday morning or Sunday evening, arriving in San Francisco Sunday night or Monday morning, as the case may be.

It will be noted that very little delay is incurred on the going trip, there being one day at Grand Canyon and practically one day at Los Angeles. The touring may be done on the return trip, which may be by any of numerous routes. Selections must be made, however, and this is important to understand, at the time ticket is purchased. The following rather abbreviated statement of choice of routing for the return trip has been furnished us:

1. Southern Pacific to Ogden, thence Union Pacific to Denver, or
   Denver & Rio Grande Western to Denver, Colorado Springs or Pueblo, thence Colorado & Southern and Fort Worth & Denver City to Fort Worth.
2. Western Pacific to Salt Lake, thence Denver & Rio Grande Western to Denver, Colorado Springs or Pueblo, or Union Pacific to Ogden, Union Pacific to Denver, thence Colorado & Southern-Fort Worth & Denver City to Fort Worth.
3. Southern Pacific or Atchison, Topeka & Santa Fe or Pacific Steamship Company or Los Angeles Steamship Company, to Los Angeles, Union Pacific to Salt Lake or Ogden, thence routes as shown beyond those points in Items 1 and 2 above.
4. Via lines shown in Route No. 3, above, to Los geles, thence Atchison, Topeka & Santa Fe System to Amarillo, Trinidad, Pueblo, Colorado Springs, or Denver, thence Colorado & Southern-Fort Worth & Denver City to Fort Worth.
5. Via lines shown in Route No. 3, above, to Los Angeles, thence Southern Pacific direct to El Paso, or Atchison, Topeka & Santa Fe System Lines via Albuquerque, El Paso, from thence via Texas & Pacific or Southern Pacific to Fort Worth.
   Indirect route via San Diego S. D. & A. El Centro, thence as in Route No. 5, via El Paso may be used at $7.50 additional.
6. Southern Pacific Ry. or San Francisco & Portland Steamship Co. or Pacific Steamship Co. to Portland, thence,
   (a) Northern Pacific or Great Northern to Billings, thence Chicago, Burlington & Quincy-Colorado & Southern to Denver, thence Colorado & Southern-Fort Worth & Denver City to Fort Worth; or
   (b) Union Pacific to Denver, thence Colorado & Southern, Fort Worth & Denver City; or
   (c) Union Pacific to Ogden, Denver & Rio Grande Western to Pueblo, Colorado Springs or Denver, thence Colorado & Southern-Fort Worth & Denver City to Fort Worth.
7. Via lines shown in Route No. 6 to Portland, thence Northern Pacific, Great Northern or Union Pacific to Seattle, thence Northern Pacific or Great Northern to Billings, thence as shown in Route No. 6 (a) above; or
8. Via Pacific Steamship Company, San Francisco to Seattle, thence via Northern Pacific, Great Northern or Union Pacific to Portland and routes, as shown in Route 6 (a) through Spokane, and as shown in Route 6 (b) or (c).
9. Great Northern, or Northern Pacific to St. Paul, thence direct to Kansas City, or direct to St. Louis (not via Chicago), thence direct to Fort Worth; or
10. Great Northern, Northern Pacific, or Union Pacific, Portland to Seattle, Great Northern or Northern Pacific or Chicago, Milwaukee & St. Paul, to St. Paul, thence as shown in Route No. 9 to Fort Worth; or
11. Via Seattle as shown in Route No. 10, thence Great Northern Railway to Vancouver or steamer (via Victoria, if desired) to Vancouver, thence Canadian Pacific to Portal or Emerson, Soo Line to St. Paul, Route No. 9 as above, St. Paul to Fort Worth; or
12. Via Seattle as shown in Route No. 10, thence Great Northern Railway to Vancouver, or steamer (via Victoria if desired) to Vancouver, thence Canadian National, Winnipeg & Great Northern or Northern Pacific to St. Paul, and as per route No. 9, thence to Fort Worth; or
13. San Francisco to Seattle via Pacific Steamship Company, thence as per Routes Nos. 10, 11 or 12 to St. Paul, and Route No. 9 as applying, St. Paul to Fort Worth.

Note: Meals and berth are included in price of ticket on boats of the San Francisco & Portland Steamship Company, but are additional on all other steamer lines named.

Round trip fares will be quoted from any point desired upon request to Mr. D. E. Nelson, Traveling Passenger Agent, Fort Worth & Denver City Railway Company, Room 503 Denver Record Building, Fort Worth, Texas.

It is recommended that the routing outlined above be approved by the House of Delegates as the official route to the San Francisco meeting of the A. M. A., and that the incoming committee be directed to cooperate with the roads in making the movement a pronounced success.

Respectfully submitted,

HOLMAN TAYLOR, Chairman,
J. H. LANDER,
R. L. RAMEY,
S. P. CUNNINGHAM,
E. E. BRYSON.

The report was referred to the Reference Committee on Reports of Officers and Committees.

The President: The Committee on Arrangements for the Annual Session, Dr. L. A. Suggs.

REPORT OF COMMITTEE ON ARRANGEMENTS.

The arrangements for this session, I take it, have been very satisfactory. We have attempted to accommodate the Association in the Texas Hotel. The hotel has been very generous to us, indeed, giving us, as you see, the lobby, all the top floor, and all of the larger meeting rooms. They have accommodated all Scientific Sections, and reserved for us, in addition to the three hundred and fifty rooms to start with, a hundred additional rooms for guests. The arrangements, I think, have been pretty complete.

L. A. SUGGS, Chairman.

Referred to the Reference Committee on Reports of Officers and Committees.

The President: The Committee on Medical Education, Dr. Graves.

Dr. M. L. Graves of Galveston: Mr. Chairman, Gentlemen: The report of the Committee on Medical Education is set out in detail here, signed by all members of the committee. I think I shall refer, in a word or two, to each division. In recent years there has been a great deal of legislation requiring graduates of medical colleges to take interneships in hospitals for at least one year before they are permitted to appear before a licensing board. Our own State licensing board has had this subject up and has, on at least two occasions, set a date for the inauguration of the plan. There are now about eleven medical colleges that require a year of internership before diploma is delivered. The hospitals have to follow certain stipulations and requirements before the institutions will approve them for this purpose. There appears to be no further legislation necessary, because the colleges of the country are falling into line rapidly in this respect.

Education and qualification of nurses is a matter that has been given consideration. A great deal of sentiment has been generated in favor of licensing in some way, practical nurses nurses trained for ordinary services in the sick room, but who are not capable of becoming superintendents of hospitals, supervisors of nurses training schools, etc. That has been done in a number of states. In Missouri, practical nurses are permitted to register as nurses' aids, and are permitted to charge certain fees not above, I believe, four dollars per day. This system seems to be working very well, and we will probably be confronted with such efforts as that sometime in the future in Texas.

The livest subject of all, perhaps, is that of postgraduate instruction. It has been referred to here in a number of reports. As you are aware, the two courses given last year by Baylor University and the Medical Department of the University of Texas, were attended by more than seventy-five physicians, and the Dean of one of those institutions, by means of a questionnaire, addressed to the students of the course, found that the great preponderance of opinion was that the courses should be extended to two weeks at least. So they have agreed to give clinics of two weeks during this year. In this connection, Mr. President, I believe that Dean, Dr. Keiller is here, and can give you more specific information as to the course which will be given at the State University at Galveston, and I suggest that you hear him on this subject.

REPORT OF COMMITTEE ON MEDICAL EDUCATION

The Committee on Medical Education desires to report as follows:

One member of the committee attended the Conference on Medical Education of the American Medical Association, held at Chicago, March 5, 6 and 7, and attended all of its sessions.

Current reports of the various committees, as well as the discussions, did not reveal any radical or new procedures in medical education. The thorough reorganization of undergraduate medical schools throughout the United States, and their reduction in number to institutions that can be maintained at a high standard, has resulted in untold good to the public and to the profession. There is a gratifying increase in the number of medical students in the Class A colleges throughout the country. Indeed, so large a number of the best medical schools are now compelled to limit their admissions for a few years it will be possible for a large majority of them to select only the best material from the excessive number of applicants. It is estimated that there will be about 4,000 graduates in the schools during the next year, and probably the number will rise to 5,000 within the next few years. It is estimated that this number of graduates, thoroughly qualified by preliminary and professional education and hospital training, will be able to supply the principal needs of the country for professional practitioners.

The Intern Year is now a requirement of graduation in most schools throughout the United States, and the number is increasing steadily. The number of hospitals has grown so large and the demand for interns so much greater than the supply, that only the best hospitals are utilized by discriminating institutions, in placing their graduates for the required intern year. It will probably be only a few years now until the graduates of all the important institutions of the country will be required by their alma mater or by the State Boards of Medical Examiners, to spend at least one year in a supervised or standardized hospital before being eligible to practice medicine.

This plan is being so rapidly adopted by the medical institutions that no particular legislation seems to be needed, and we may confidently look forward to its universal approval within the next few years. This will be a matter of great improvement in professional practice, as no graduate will then be able to locate and qualify unless he has had this special clinical training.

Education and Qualification of Nurses.—The rapid multiplication of hospitals and the organization of training schools in large numbers under the most variable standards of preliminary education, and insufficient and incomplete curricula of instruction in many of these hospitals, is producing a serious problem in the nursing service. There is a larger demand for nurses than the available supply, and in some of the states, like Missouri, undergraduates or trained nurses' attendants, have been legalized and are now in successful practice. They are not permitted to enjoy the privileges and emoluments of the registered nurses, but are available for all ordinary duties about the sick room and in institutions, and are permitted to charge a sum somewhat less than that of the registered nurses, say $4.00 per day. They are known by various names, such as "Nurses' Aids," "Nurses' Attendants" and "Practical Nurses." It is probable that legislation legalizing their practice will be enacted in additional states, and it is highly desirable that such legislation should be clear and explicit and put this service on a high plane of efficiency and reliability from the first. It may be said that in our own State a thorough, accurate and authorized survey of our hospital situation with respect to the nurses' training school, should be undertaken and prosecuted with altruistic purposes.

The curricula of instruction, the character and competency of the faculty, the equipment for successful training and the establishment of minimum requirements for hospitals to meet before they are permitted to graduate nurses, and likewise the improvement of the law regulating the practice of nursing in this State, is an urgent need.

Medical Education.—The medical departments of most of the universities and the independent schools are steadily making progress throughout the country. Physical plants are everywhere being improved. In such states as Iowa, Minnesota and Michigan, these physical plants have been provided by the state legislatures, and include large buildings and abundant equipment for the fundamental medical sciences and also state-owned, state-built and state-operated hospitals having from 600 to 1,000 beds, and accommodating all the clinical departments, so that both fundamental and clinical teaching are provided for in the amplest and most satisfactory manner.

The new plant for Vanderbilt University, at Nashville, Tennessee, made possible by generous contribu-

tions, will consist of an adequate college, hospital and dispensary, under one roof and so harmonized in its functions that medical education and scientific care of the sick actually become a realized ideal under the eyes of the students. Such close contact and co-operation, the daily living in and participating in such activities, must have the highest educational value. Texas may well profit by what her sister states are doing for medical education.

Postgraduate Instruction.—Perhaps the subject of greatest interest and importance at present, is the survey and study of the agencies for postgraduate medical education throughout the country, by the Council on Medical Education of the American Medical Association, through its special committee headed by Dr. Louis Wilson of Rochester, Minnesota. The plans that will ultimately be prepared for the reorganization of these departments and the organization of new departments of postgraduate instruction in key positions throughout the country, will be of lasting benefit to the profession. Texas has yet no authorized or organized department of postgraduate instruction. Last year the two medical colleges—the University of Texas, and Baylor University, at the request of the Board of Councilors of the State Medical Association, inaugurated and held courses in postgraduate instruction covering one week and designated "Practitioners' Clinics." More than 75 practitioners registered attendance at the courses. They were well received, and from the comments and criticisms received by the school authorities, it was believed that a larger course, covering two weeks of intensive work in diagnostic clinics, ward conferences, lectures and demonstrations on the practical subjects in topographical anatomy, bio-chemistry and pathology, would be helpful. Both Universities have kindly consented for their faculties to make provision for a two weeks' course of this character, during the month of June, 1923. The detailed programs of these courses have not yet been issued, but they can be depended upon to offer definite value to the practitioners who may attend. No other courses of graduate instruction have yet been organized throughout the State. Various suggestions have been offered in the past for previously outlined plans which might be made useful.

It is perhaps advisable that the experiments in postgraduate medical instruction now being made at the two teaching institutions, be continued for a few years before other methods are adopted. These experiences will give us the best criteria for the establishment of other courses.

Respectfully submitted,

M. L. Graves, Chairman,
Malone Duggan,
H. R. Dudgeon,
J. M. Martin,
M. W. Sherwood.

The report was referred to the Reference Committee on Scientific Work.

The President: If there is no objection, we will hear Dr. Keiller for a few minutes. (Applause.)

Dr. William Keiller of Galveston: Gentlemen, I have only one or two things to say. First, it is the desire of both institutions to serve to the best of their ability the whole of the medical profession in this State, and we are anxious to do the best that we can in Galveston along that line. The questions that are being asked are these: Are these courses open to all regular practitioners in Texas? They are. We are anxious to serve every physician in Texas. Are they free? There is no fee charged, in this institution, unless anyone wants to take a special course in anatomy, for example, or in any laboratory course costing actual money, and then a small fee will be charged to meet the expenses. Clinics will be given from nine to eleven, and ward rounds from eleven to one, in medicine, in surgery, in gynecology and obstetrics, in diseases of children, in syphilology and dermatology on different days. Clinics will be given regularly on eye, ear, nose and throat, and if there is a sufficient number who desire special courses along any particular line, we will be delighted to give those courses as soon as we know what is wanted. In the afternoon there will be lectures from three to five. Demonstrations in applied anatomy in some special fields in operative surgery, in lectures on some of the newer features of medical diagnosis and medical treatment and pathology and surgery, such things as can best be treated in lectures. We shall endeavor to in every way bring forward any special peculiar cases of live subjects of the present day that are specially interesting to the everyday, general practitioner.

We are not catering to specialists. We are not in a position to do that. We want to help the man who doesn't have the time or possibly the money, to attend large eastern postgraduate courses, who can enjoy a short holiday, some sea bathing, and at the same time to brush himself up in general medicine and general surgery, and such things in the specialties as he may be interested in. We are still in the infant stage. As we know better the desires of practitioners, we will be better able to form courses which will meet their needs. (Applause.)

The President: Compensation and Health Insurance, Dr. A. P. Howard.

Report of Committee on Compensation and Health Insurance

Your committee has to report that the last Legislature changed the Workmen's Compensation Act in the following manner:

Sec. 7, Part I, now provides for four weeks hospital service in place of two weeks, as formerly. This may be extended by permission of the Board. This does not affect the physician, as the old law allowed for the extension, if required.

Sec. 3, Part I, provides the elimination of the third party liability. We are informed that this may be applied to the question of whether an injury is made worse by treatment, and that a doctor cannot be sued for damages in addition to compensation already obtained.

The other amendments do not affect the medical profession.

There was no effort on the part of the profession to institute any legislation in our favor along these lines. All our forces were so busy trying to protect the public from an influx of quacks, that we had no time and were afraid to divide our energies to look out for our own interests.

We would suggest that doctors, like farmers, need protective organiztion, for we have an isolated business. Each one is taking care of himself as best he can, a little suspicious and a little jealous of his neighbor, not co-operating, but in active competition. The various corporations and insurance companies with which we must do this business, are well organized and constantly in touch with each other, endeavoring to hold down the cost of medical service so that they may cut the rate of insurance to industry. Our business supports us. We should spend money supporting it.

Our law, we are convinced, is the best state law of its kind. Some states, for instance Tennessee, have laws limiting to $200.00 the amount of medical cost to be spent in any one case, no matter what its severity, this amount to cover attendance of the physician, hospital service and drug costs. Can you not see how that would affect the physician who is treating

a long drawn out burn case, with extensive scar formation, or some similar case?

Industrial surgery is no longer the problem of the city doctor, but with the vast growth of the lumber and oil industry any physician may find himself, over night, saddled with hard and difficult duties suddenly thrust upon him, and a certain law governing his charges and the time of treatment allotted, which, if he has not familiarized himself with it, may cost him considerable worry and loss of temper Before entering this kind of work the physician should familiarize himself with the law and see whether he can profitably handle it.

We believe that contract work, done on a stipulated salary, is disadvantageous, both to the patient and the physician, and we advise that a special committee be appointed to investigate every phase of this question and report on it, as there are many things not at present well known which should be brought before this body, discussed and acted upon.

COMPULSORY HEALTH INSURANCE

This menace, which has hung for a long time over the profession of Texas, and in fact, all the states of the Union, has been unusually quiescent during the past year; but we should bear in mind that it may arise again any time. It has some foothold now in railway hospitals, and various contract work in which medical service is exacted for very little. From the small amount the participants are charged, little can be paid to the doctor.

A strong line should be drawn in our relation with the State, between preventive medicine, which is our duty, and curative medicine, which is our business. There are a great number of lay organizations that have been founded, particularly since the war, with high-sounding names, and ideals, to gather money and give positions to their founders and their cohorts. These organizations are dangerous because they are not directed by physicians, or in any way influenced by them. They foster political fads and fancies, increase taxation for their maintenance, and finally bring disrepute on the medical profession, of which they are not a part.

Committees, studying and reporting, are of little value unless the rank and file of the profession familiarize themselves with the questions being considered and endeavor to influence legislation favorably, either themselves or by employing competent lobbyists to look after it for them, and at the same time spread educational propaganda. We should not forget that the proper educational matter often repeated can change public opinion to our side just as it has for those opposing us.

Respectfully submitted,

A. PHILO HOWARD, Chairman,

The report was referred to the Reference Committee on Reports of Officers and Committees.

The Secretary: Mr. President, I notice that the fraternal delegate from the Texas State Dental Society is here, and while it is out of order, I move that he be presented at this time, on the ground that is rather unjust to require him to sit here continuously waiting on the regular order of business.

The motion was seconded, put and duly carried.

The President: Dr. Taylor will introduce the gentleman, please.

The Secretary: It gives me peculiar pleasure just now to introduce the fraternal delegate from the State Dental Society because of the special recognition that organization gave the State Medical Association in its recent annual session. Your Secretary was asked to read a paper for the purpose of attempting to establish better liaison between the two professions. The Dental Society heard our fraternal delegate most kindly upon a subject which has been pressing us considerably, as you know, and at the conclusion of his address, unanimously adopted warm resolutions condemning chiropractic legislation and anything of the sort. I take pleasure in introducing to you Dr. W. O. Talbot of Fort Worth (Applause.)

ADDRESS OF DR. W. O. TALBOT.

Dr. Talbot: It affords me a great deal of pleasure to appear before you as the fraternal delegate of the Texas State Dental Society. I wish to express our appreciation of the visit of your fraternal delegate, Dr. Rosser, to our Society some weeks ago and for the splendid address which he delivered on that occasion; also, for the interesting paper read by your Secretary, Dr. Taylor.

We wish to extend to you the greetings and the good will of the Texas State Dental Society, and to assure you that you will have the hearty co-operation of this Society in any effort you may make for the betterment of the health and the welfare of the people of this great State.

There are some points of mutual interest to the medical and to the dental professions, that I would like to mention briefly. A few years ago, Dr. Chas. Mayo, being attracted by the close relation between mouth infections and systemic disease, made the statement that the next great advance in preventive medicine would have to be made by the dental profession. The question at that time, as he put it, was "Will they do it?" The dental profession was put on the defensive. The Dental Research Commission increased its efforts and has continued to work through universities, laboratories and other institutions, on problems of disease for which mouth conditions were believed to be responsible. With the co-operation of the medical profession progress has been made, and with every step forward the two professions are being drawn closer together.

Shortly after Dr. Mayo's statement went out the impulse to extract all devitalized and pyorrheal teeth prevailed. Great good was accomplished in many cases and great damage done in others, by unnecessary loss of teeth. The pendulum swung too far, but it came back, and while it has not settled yet, we can safely say that it is pointing to a sane rule of procedure, which is that all diseased teeth should be extracted when they are a menace to the health and cannot be reasonably cured and made serviceable. This often requires consultation between the dentist and the physician.

Progress has been made in preventive dentistry, largely through the efforts of the dental profession, the hygienists in public schools, with the assistance to some extent of the physicians; but we have found that all the prophylaxis and all the reparative work the dental profession can do will not control mouth infections as they should be controlled.

Another question looms up, and that is the control of the systemic conditions which influence the conditions in the mouth. This is a question of diet and should be handled by the medical profession, in co operation with the dentists. Will the medical profession take the lead and handle their part of it There is much in this line of work that the dentist is not trained to do, but when you are ready to wage war on the candy kitchen and the white bread bakery shop, as a menace to the health of the children of the State, you will find the dental profession ready to co-operate with you.

Dentists should know more about general medicine, and it would not hurt many physicians to learn a little more about sane, practical, good dentistry. Dentists should attend medical societies occasionally and physicians may return the call with profit t

both. Every dentist should read a reliable medical journal regularly. The physician could likewise read a reliable dental journal with advantage to himself and great benefit to his patient.

When you need help from the dental profession of Texas in matters of legislation, or wish to strike ignorance and superstition, as in your drive against the chiropractic bills, you will find an ally in our State Society.

First Report of Reference Committee on Credentials.

The Secretary then laid before the house the first report of the Reference Committee on Credentials, as follows:

Membership of the House of Delegates.*

Angelina—A. E. Sweatland.
Austin—W. T. Brown.
Baylor—J. F. Bunkley.
Bee—C. M. Poff.
Bell—J. M. Frazier.
Bexar—E. V. DePew, S. P. Cunningham, Thomas M. Dorbandt.
Bowie—J. N. White.
Brazos-Robertson—H. W. Cummings.
Brown—W. H. Paige.
Caldwell—A. A. Ross.
Camp—R. Y. Lacy.
Cherokee—J. B. Ramsey.
Childress-Collingsworth—Winfred Wilson, W. N. Wardlaw, J. H. Ferriss.
Comal-Guadulupe—F. R. Karbach.
Comanche—H. H. Inzer.
Cooke—J. M. Wattam.
Coryell—D. M. Jordan.
Dallas—A. W. Nash, C. R. Hannah, M. E. Taber, W. M. Young, J. M. Coble.
Denton—George D. Lain.
Eastland—J. H. Caton.
Ector-Midland-Martin-Howard—G. S. True.
Erath—O. O. Gain.
Falls—J. W. Torbett.
Fannin—J. C. Carleton.
Fisher-Stonewall—W. W. Callan.
Fort Bend—A. G. Neighbor.
Freestone—W. A. Whiteside.
Galveston—M. L. Graves.
Gonzales—L. Stahl.
Grayson—A. W. Acheson, M. M. Morrison.
Gregg—V. R. Hurst.
Grimes—W. T. Wilson.
Hale-Floyd-Briscoe—S. J. Underwood.
Hamilton—C. E. Durham.
Hardeman-Cottle—J. T. Horton.
Harris—E. L. Goar, R. D. Wilson, F. O. Calaway.
Hemphill-Roberts—E. H. Snyder.
Hood-Somervell—T. H. Dabney.
Hopkins—Theo. Dorsett.
Hunt—J. W. Ward.
Jefferson—W. E. Tatum.
Johnson—J. D. Osborn.
Kaufman—E. M. Fowler.
Kerr-Kendall-Gillespie-Bandera—S. E. Thompson.
Kleberg—Chas. P. Yeager.
LaSalle-Frio-Dimmitt—J. E. Beall.
Lee—J. M. Johnson.
Limestone—E. F. Ham.
Lubbock-Crosby—W. L. Baugh.
McCulloch—Wm. Land.
McLennan—H. F. Connelly, J. W. Gidney.
Madison—James E. Morris, O. W. Ross.
Milam—A. S. Epperson.
Montague—N. W. Crain.
Montgomery—C. M. Covington.
Navarro—L. E. Kelton.
Nueces—L. Kaffie.
Orange—F. W. Lawson.
Panola—H. A. Ross.
Parker-Palo Pinto—J. H. McCracken.
Red River—Claud D. Scaff.
Rusk—C. A. Dawson.
Sabine—R. D. Cousins.
San Patricio-Aransas-Refugio—Preston Worley.
San Saba—A. D. Nelson.
Scurry-Dickens-Kent—A. C. Leslie.
Shelby—T. F. Whitesides.
Stephens—J. W. Wharton.
Tarrant—A. R. Ponton, L. A. Suggs.
Taylor—B. F. Rhodes.
Throckmorton—C. A. Turner.
Tom Green—A. C. DeLong.
Travis—A. F. Beverly.
Upshur—W. Hyde.
Victoria-Calhoun—J. H. Lander.
Waller—C. W. LeGrand.
Washington—Luther Kusch.
Wharton-Jackson—H. C. Reynolds.
Wichita—T. H. Parmley.
Williamson—J. F. Flinn.
Wise—W. A. Jennings.
Wood—W. T. Black.

*For the sake of convenience, the membership of the House, as developed by the several roll-calls of the session, is included.

Ex-officio members.

President—Joe Becton, Greenville.
Secretary—Holman Taylor, Fort Worth.
Treasurer—K. H. Beall, Fort Worth.
Trustees—John T. Moore, Houston; W. B. Russ, San Antonio; W. R. Thompson, Fort Worth; John S. Turner, Dallas.
Council on Medical Defense—W. D. Jones, Dallas; F. P. Miller, El Paso; A. P. Howard, Houston.
Councilors—P. C. Coleman, Colorado; R. S. Killough, Amarillo; Joe E. Dildy, Brownwood; C. S. Venable, San Antonio; F. U. Painter, Corpus Christi; Joe Gilbert, Austin; O. S. McMullen, Victoria; W. B. Thorning, Houston; M. F. Bledsoe, Port Arthur; R. H. McLeod, Palestine; N. D. Buie, Marlin; J. F. Bunkley, Seymour; A. B. Small, Dallas; J. K. Smith, Texarkana.
Council on Legislation and Public Instruction—A. C. Scott, Temple; C. M. Rosser, Dallas; A. F. Beverly, Austin.

The report was received and adopted.

On Motion of Dr. W. D. Jones of Dallas, the House adjourned to meet again at 10 a. m., Wednesday, May 9.

General Session and Memorial Exercises.

The general session convened in the First Methodist Church, eight o'clock p. m., with Dr. Thomas Dorbandt, Chairman of the Committee on Memorial Exercises, in the chair.

Dr. Dorbandt: It has long been the custom of the State Medical Association of Texas at its annual meeting to hold memorial services for those who have died during the preceding year. The time has come, and we are here on this occasion to pay a tribute of respect to the many doctors who have died since our last annual meeting. Forty-five members and about forty-seven doctors who were not members of our Association, have died during the year. In behalf of the State Secretary, Dr. Taylor, and of this committee, I want to say that every reasonable effort has been made to secure the names and addresses, and other information, of all who have died in the State of Texas during the year. If for any reason any have been omitted, or not properly recorded, the State Secretary will be glad to make correction before the list is published.

The nature of this service is necessarily religious. Every doctor of whatsoever creed believes in the divinity of God and the brotherhood of man. The very nature of his work, the whole association of his services during life, brings him in contact daily with human afflictions, with disease and with death, and makes him know by observation, by contact, and by experience, that there is a hand of Providence that directs the destiny of men.

While the audience stands, Rev. Dr. Collie will pronounce the invocation.

INVOCATION.

Almighty and ever-living God, Thou Who art from everlasting to everlasting the Maker of all things, the Preserver of all things, the Giver of eternal life, unto Thee we come now in our devotions. We thank Thee for that good providence that has been over us and round about us during another day, and that brings us to this hour of memorial service.

There are gathered here from all over this great State of Texas men of the healing art who have come to this place, Thy house, that they may honor the memory of their brethren who have finished life's pilgrimage and gone on to the eternal beyond during the past year. Our Father, we invoke Thy righteous blessing to abide upon the families of these deceased physicians. There are many homes of sadness because the loved father, the husband and physician, has gone away. Do Thou grant that the widows and the orphaned children may know how to lean hard upon the everlasting arms and look to Thee for the only real comfort that can be given in these times of affliction.

Our Heavenly Father, we thank Thee from the very depths of our hearts for the religion of Jesus Christ. We thank Thee for His life here on earth among men. We thank Thee that He was anointed with the spirit of goodness and that He went about doing good. We thank Thee that Thou didst send Thy Son to this world upon a mission to the bodies of men, as well as to their souls, and we thank Thee that while here among men He healed all manner of diseases; that His ear was ever open to the cry of distress, and that He was ever ready to relieve suffering; that what our Lord Jesus Christ did in the exercise of His own divine power in healing the sick and relieving suffering, these men who have gathered here are doing every day and every hour, while they are at their homes and in the practice of their profession, by natural means and slower processes. We thank Thee also that wherever the gospel has been preached, wherever Christianity has been established, all the agencies for the uplift of humanity have been greatly multiplied.

We thank Thee, our Heavenly Father, for the medical schools where these men are trained and fitted for their professions. We thank Thee for the great hospitals and sanitariums located in various places in our land, where the sick can go, where their bodily sufferings can be relieved, where medical science can do so much to prolong human life.

Let Thy blessings, we pray Thee, rest upon the service of this evening, upon all who shall take part. Forgive us all our sins, guide us by Thy unerring counsel through life's journey, and, our Father, bring us unto Thyself in glory, as we ask for all the riches in grace, in Christ Jesus our Lord. Amen.

The Chairman: The names of those physicians of Texas, both members and non-members who have died since our last meeting, will now be called.

Dr. W. S. Horn of Fort Worth, then read the list of names, as follows:

DECEASED MEMBERS, 1922-1923.

Allen, Walter H., Marlin.
Archer, Wm. A., Houston.
Barrow, Robert L., San Antonio.
Brown, B. S., Kerens.
Brown, H. M., Dallas.
Burroughs, Sam R., Buffalo.
Calhoun, B. F., Beaumont.
Carroll, E. S., Center.
Carter, J. Saunders, Dallas.
Conger, Ralph E., China Springs.
Cooper, C. T., San Angelo.
Ellis, J. G., Denison.
Fleming, H. C., Denison.
Fleming, W. P., Georgetown.
Fleming, T. M., Mount Pleasant.
Gage, S. C., Waco.
Gardner, A. B., Greenville.
Gibson, B. F., Lufkin.
Harris, L. L., Cleburne.
Hinton, E. J., Wrightsboro.
Hopkins, R. R., Victoria.
Huffman, W. S., Kingsville.
Hughson, F. L., Breckenridge.
Kennedy, C. T., Greenville.
Kimbrough, W. G., Denton.
Latham, J. B., Abilene.
Logan, Jesse H., San Antonio.
Loyd, R. G., Royse City.
Mahon, G. D., Sr., Blocker.
McMeans, Andrew, Monterey, Mexico.
Milliken, S. R., Dallas.
McGown, M. W., Hemphill.
Monday, W. H., Terrell.
Nicholson, Lucian, Paris.
Norton, E. A., Houston.
Petrie, Socrates, Fairview.
Price, W. A., Hereford.
Rape, Wesley A., Victoria.
Reinemund, C. A., El Paso.
Rumph, W. V., Fort Worth.
Smith, Willis R., El Paso.
Stuckey, John H., Rosenberg.
Teas, F. M., Denison.
West, Rufus B., Fort Worth.
Wilson, J. C., Dallas.

DECEASED NON-MEMBERS.

Adams, W. H., Crowell.
Bennett, R. B., Bangs.
Blocker, E. B., Marshall.
Bowers, S., Brenham.
Boyles, J. M., Houston.
Brown, C. B., Edgewood.
Bruce, Claude, Mineola.
Chandler, M. M., Greenville.
Collard, F. R., Wheelock.
Conrad, J. M., Mexia.
Cox, E. S., Galveston.
Ellington, F. H., Pittsburg.
Everett, J. L., Palmer.
Fisher, R. C., Belton.
Fountain, W. D., Saratoga.
Gray, A. N., Floyd.
Hutchison, G. N., Arlington.
Hartsfield, T. M., Hillsboro.
Holland, E. A., San Antonio.
Jernigan, Wm. F., Port Arthur.
Kennemur, W. E., Sulphur Springs.
Lowry, Wm., Teague.
Luttrell, J. M., Mineral Wells.
Lynch, M. C., Como.
McBride, M. C., Dallas.
Miles, J. K., Conroe.
Montgomery, D. W., Concord.
Morrow, J. H., Blue Ridge.
Morris, H. C., Brownwood.
Parish, A. L., Teneha.
Pipkin, Geo. P., Lancaster.
Pope, Wm. H., Trinity.
Proffitt, N. C., Kingston.
Ranspot, R. R., Lone Oak.
Satterfield, G. W., Oak Cliff.
Sholars, A. R., Orange.
Smith, J. W., Hemphill.
Sneed, W. N., Fairfield.
Snodgrass, S. E., West.
Starley, W. F., Pecos.
Terrell, Charles E., Fort Worth.
Townes, J. M., Joshua.
Wassam, A. M., Galveston.
Weems, H. K., Jean.
Whitley, E. R., Commerce.
Wilkes, Frank B., Houston.
Willey, W. B., Dallas.
Wilson, R. S., Gainesville.

The Chairman: I am going to ask Dr. Bledsoe to say a few words in memory of Dr. Sholars.

Dr. M. F. Bledsoe of Port Arthur: Dr. Sholars was at one time one of our Councilors. He was my immediate predecessor. His medical career in the little town of Orange was without blemish. It occurred to him that he could render a service to humanity aside from his professional duties and he became a member of the State Militia. He was in the Spanish-American War as a Captain. He continued his service in the Guard, and in 1916 went to the Mexican border. In his regiment, three of the five field officers were physicians, Dr. Taylor and Dr. G. P. Rains of Marshall being the other two. Dr. Sholars was promoted, and went to France as a colonel of artillery, in the Thirty-sixth Division. I am pleased to mention these few simple facts of his life. His service was exemplary, his home life was as it should be, and those who knew him best, loved him most.

The Chairman: The Rev. Dr. Cramer will pronounce the benediction.

BENEDICTION.

Now, may the grace of our Lord and Savior, Jesus Christ, God the Father, and the communion of the Holy Spirit guide and guard us on our way in His name. Amen.

There being no further business, the session stood adjourned.

Second Day, Wednesday, May 9, 1923

MINUTES OF THE HOUSE OF DELEGATES.

The House of Delegates met pursuant to adjournment, at ten o'clock a. m., with President Dr. Becton in the chair. The Secretary called the roll and announced that fifty-three members of the House were present.

Second Report, Reference Committee on Credentials.

The Secretary: The Credential Committee desires to make a supplemental report, recommending the seating of Drs. F. O. Galloway from Harris County, J. W. Wharton from Stephens County and J. C. Carleton from Fanning County.

On motion, the Delegates mentioned were declared seated.

The Secretary: Mr. President, I have a telegram here that I think should be read before we begin our proceedings. This is from Austin:

"Board of Health Bill engrossed in Senate provides for two laymen on Board of Health. Also amended so as to reduce health officer's salary to three thousand, six hundred. Chiro bill on calendar in Senate Wednesday. Suggest doctors wire Senators to vote against it in event they succeed in getting floor consideration."

Now, Mr. President, I move you that this House go on record as opposed to displacing doctors on the Board of Health, with laymen, and that this House of Delegates request every doctor who will do so to, not later than noon today, wire his Senator to oppose the chiropractic bill. I don't believe we should oppose putting laymen on the Board of Health, but to oppose displacing doctors with laymen, is different. We need the concensus of opinion of the best doctors we can get, on the problems that are to come up before the State Board of Health.

Dr. I. L. McGlasson of San Antonio: I move, as an amendment, that this telegram be read to the different scientific sections before noon, so that action can be taken there.

The Secretary: I will accept that amendment.

Dr. Bledsoe: I seriously question the propriety of recommending at this time that doctors be displaced, even under the circumstances; I hate to see it, but as a general business proposition Boards of Health in this day and time, on our own recommendations, include laymen. It is a question in my mind, seriously, whether that feature dealing with the two laymen should be questioned. It is a department policy, it seems. I can understand how it would not be right under certain circumstances to have laymen on the board, and I can understand, on the other hand, how perfectly fair and fine it might be if we did have laymen on it. I move to amend the motion by striking out that feature objecting to displacing doctors on the board with laymen.

The Secretary: Before you vote let me call attention to the fact that there is an effort being made to undermine the medical profession. If you displace doctors on this small board with two laymen, some of these days there will be three. If we could do the ideal thing and pick two good, sensible business men, bankers or lawyers, it would be all right. This is only a part of the general fight being waged against the medical profession. Furthermore, instead of having two business men on the board, we will likely have two politicians.

Dr. S. C. Thompson of Kerrville: I think the question of public health rests just as much upon the shoulders of the public as it does upon the medical profession, and I think the sooner we educate the public that it is up to them to carry that burden, the better we will get along with them and the more intelligent action we will have. The mistake that we have made up to the present time, is in assuming the whole fight. I don't consider it any of my business, any more than I would consider it the business of a lawyer, to run around over this State, looking after everybody's health. It is my business to look after the class of people who come to me and pay me for it. It is my business to give intelligent advice, or the best advice I can, to the people who want it. I think it is a wise proposition to let the public begin to know that they have to carry this responsibility.

Dr. J. S. Turner of Dallas: We have been talking about the campaign we have been conducting in the interest of the Medical Practice Act. We have said that it is not a doctors' fight, but a fight in the interests of the people. It occurs to me that it would be a mistake for us to go on record as demanding that the State Board of Health be made up exclusively of the medical profession. It would give the lie to everything that we have said heretofore. If you believe it can be put through without creating a prejudice, all right, but I believe this is a fight not for the doctors, but for the people of Texas.

Dr. H. H. Inzer: If we want to get some good work, get an intelligent lady on that board.

The Secretary: Laymen would include a lady.

The President: Any further discussion? If there is no further discussion, we will vote on the amendment of Dr. Bledsoe. If you vote "Aye" you will vote to leave the bill as it is with laymen on the board. If you vote "No" you will vote for an all doctor membership.

The amendment was thereupon put and duly carried.

The motion of Dr. Taylor, as amended by Dr. Bledsoe, was thereupon put and duly carried.

The Secretary: The President asked me to read this telegram, addressed to him:

"President State Medical Association. I regret that matters of importance demand that I remain in Austin. Chiro bill will be out on minority too late for passage. Extend to your honorable body my kindest regards and my sincere interest in their fight for the protection of the health of five million people of Texas.—J. W. Culp.

That is from Representative Culp of Bell County, one of the principal authors of the amendment to the Medical Practice Act which passed the regular session, one of the strongest supporters that legitimate, scientific medicine has in the Legislature.

The President: Gentlemen, one of the best friends we have in Austin is Senator Cousins. Senator Cousins has a relative on this floor. Dr. Bledsoe will present him, please.

Dr. Bledsoe: We have all heard of Senator Cousins. We know what a friend he is to humanity, and the ideals that we stand for. It has been our privilege for I don't know how long, to have in our House of Delegates his own brother, Dr. Cousins of Pineland. I just want you to know the brother of the man who put over the Medical Practice Amendments.

Dr. Cousins stood and was applauded.

The President: The Committee on Hospital Standardization, Dr. Thorning.

Dr. W. Burton Thorning: The report of the Committee on Hospital Standardization will be found beginning on page 62. I will elaborate a little on two points. We have said in the report: "The small hospital still constitutes one of the great problems confronting this committee, and likewise the entire profession of the State," etc. It should be the duty of each and every one of us to acquaint ourselves with the character of work being done in some of these so-called hospitals. Many of them, I am very glad to say, are doing excellent work, but there are others claiming to be hospitals which, in my opinion, do not deserve the title. Another thing is the interne situation. When we began this work, we were bitterly opposed by pretty nearly every board of hospital managers with which we came in contact. I am referring not only to the State committee but also to the committees from the American College of Surgeons and the American Medical Association. We have had to use considerable persuasion, but we have finally succeeded in convincing the American Medical Association that we have some hospitals in Texas where internes can get training. We only have a few at that. Hospital managers have seen that they are not able to conduct their institutions without properly functioning staffs. The demand for internes exceeds the supply, especially in Texas. Owing to the intelligent co-operation of the boards of managers and the staffs of our hospitals, we are beginning to secure internes. We are all connected with some hospital somewhere, and have something to do and say about their conduct. It is our duty to pay more attention to the interne. We should see that his period of instruction begins the day he enters the hospital and continues until the day he leaves. Heretofore, internes have only too frequently been brought in and turned loose to follow their own sweet will.

REPORT OF COMMITTEE ON HOSPITAL STANDARDIZATION

We, your committee, beg to report that the year just passed has probably witnessed a greater advance in the work of standardizing hospitals than has any other single year since this committee began to function.

While the usual amount of hospital inspection has been carried out, we have felt that our greatest helpfulness would be among the smaller hospitals, and in accordance with that opinion we have visited many institutions with bed capacities running from twenty-five to fifty.

In many instances we have been somewhat astonished, and no less delighted, at the quality of service being rendered patients. In some if these institutions the essential laboratory equipment is of necessity located outside, but so long as it has been found available and has been utilized when indicated, we have not felt disposed to criticise.

The small hospital, however, still constitutes one of the great problems confronting this committee, and likewise the entire profession of the State. The demand for hospital beds is constantly and rapidly increasing. The people are daily becoming better acquainted with the definite advantage of hospitalization when ill, and where once they would go to hospitals only after much persuasion they now clamor for admittance. Unfortunately, they have no means of knowing that one hospital may be better equipped to render them the service they need than is another. To a great many a hospital is just a hospital; they look upon them much as they look upon doctors, apparently never seeming to consider whether the diploma of the latter was acquired at one of our great universities or by a six-weeks correspondence course.

It is clearly our duty, therefore, to acquaint ourselves with conditions surrounding such institutions and determine that they are not being conducted for the purpose of exploiting patients, withholding our commendation until we satisfy ourselves that scientific work has demonstrated their usefulness. A building with a few hospital beds and a makeshift operating room is not necessarily a hospital; it may be only a nursing home.

Our work among the small hospitals has shown that the same fault exists as earlier work discovered in the larger institutions, namely, inadequate records. The greatest difficulty encountered in the work of this committee has been to convince some of our own members that it was their solemn obligation to patients, to see to it that proper records were made and preserved for future reference. Happily this condition is rapidly improving and we predict that another year or two will see this deficiency a thing of the past.

The Intern Situation.—During the past year the very great need of internes has been so impressed upon the hospital managers and upon the executive staffs, that a much better spirit of co-operation has developed. The result is that Texas hospitals are now getting a fair share of the most desirable physicians from the graduating classes of a goodly number of the leading universities throughout the United States. This is as it should be. In the past many recent graduates have sought positions as internes in the large metropolitan institutions, particularly teaching hospitals, and it is probably fair to say that they were justified in so doing. We are very glad to report, however, that Texas hospitals, through the active and intelligent co-operation of staff and hospital authorities, are now offering opportunities to internes which are distinctly advantageous to those who expect to practice their profession in the South.

In conclusion, we wish to repeat that the progress now being made in standardizing the work of our hospitals is exceedingly gratifying and has already reached a degree which will compare favorably with the work of similar institutions elsewhere.

This work, undertaken by the State Medical Association without hope of reward, other than the knowledge that it was a righteous effort, is but further evidence of the unselfish interest of the medical profession in the people.

Respectfully submitted,
W. BURTON THORNING, Chairman,
J. H. MCLEAN,
A. F. LUMPKIN,

The report was referred to the Reference Committee on Scientific Work.

The President: Report of the Committee on Publicity, Dr. F. W. Francis.

REPORT OF THE COMITTEE ON PUBLICITY.

This committee has no formal report to make. We thought we had all arrangements made to give this meeting proper publicity. We have gone to considerable trouble to make it easy for the reporters. My attention has just been called to the fact that the *Record* this morning carried a very small story of the meeting in a very inconspicuous part of the paper. I will assure the members of this House that it was no fault of our committee. The *Record* representatives had complete data, not only pertaining to the House of Delegates, but all the sections as well.

The President: The Committee on Cancer, Dr. McGlasson.

REPORT OF THE CANCER COMMITTEE.

We will preface our report by quoting the following from a paper by Frederick L. Hoffman, published in the *Boston Medical and Surgical Journal*, February 22, 1923. This is a sermon within itself and gives us some idea of the magnitude of the problem of cancer control:

"I may, to advantage, review very briefly some recent cancer statistics, which I have caused to be brought together for the present purpose. I have combined the returns for 38 cities, which have been made available to me from 1912 to 1921, inclusive. These cities had, at the end of the period, a total population of over twenty-two million, or about one-fifth of the entire population of the Continental United States. They may, therefore, be safely relied upon, as representative for the country at large.

"During the period 1912-1915 these cities had a cancer death rate of 87.9 per hundred thousand population. During the next five years the rate increased to 95.4 per hundred thousand and during 1921 to 101.5. This rate is the highest which has ever been reached collectively for the large cities of this country. During the first five years of the period there were eight out of the thirty-eight cities with rates in excess of 100 per hundred thousand. During the next five years, there were thirteen such cities, but during 1921 twenty cities had exceeded the rate of 100 per hundred thousand, which, by every standard of normal mortality, must be looked upon as alarming. It is an amazing evidence of effrontery and reckless audacity on the part of those who are familiar with statistical facts and statistical methods of research, to deny, under the circumstances stated, that cancer is actually and relatively, as well as alarmingly on the increase in this country. No one familiar with the facts of medical education and medical progress will maintain that during eleven years such changes in diagnostic methods have been made, as can account for more than a small fraction of this suggestive increase in an average rate from 38 to 101 per hundred thousand of population.

"The city which has always had an excessively high rate is San Francisco. During 1916-1920 it reported a rate of 122.3. During the five years, 1916-1920, the San Francisco rate increased to 142.2, while during the last year under review, the rate was 151.8, or one of the very highest rates ever reached by any community in this country. During 1922 the rate was 161.8 per 100,000. Actual deaths from cancer increased from 790 in 1921 to 857 in 1922!

"Other cities with extraordinary death rates from cancer are Albany, N. Y.; Boston, Mass.; Cincinnati, Ohio; Des Moines, Iowa; Los Angeles, Calif.; Philadelphia, Pa.; Providence, R. I.; Sacramento, Calif.; St. Joseph, Mo., and Springfield, Ill. All of these cities have rates in excess of 120 per hundred thousand of population.

"But there are reasons for believing that there are still higher rates to be met with, upon painstaking analysis, in the case of some of the smaller communities. In my treatise on 'The Mortality From Cancer Throughout the World,' I emphasize the extraordinary cancer death rate prevailing in Madison County, N. Y. On the present occasion, I would direct attention to the results of the Public Health Survey of Lafayette, Ind., disclosing a cancer death rate for Tippecanoe County of 123.5, during the ten-year period 1911-1920. In 1917 the cancer death rate of this county reached the appalling figure of 160.0, compared or contrasted with a figure of 88.7 for the State of Indiana and of 82.0 for the United States registration area!

"The foregoing statistical evidence should be sufficient to arouse the apathy of the medical profession and the general public. For, while much is being done, there is by no means, the concentrated, determined effort being made, that is required to 'stem the menacing tide' of cancer increase, which reaches into practically every family in the land. The disease is not preventable in the accepted sense of the term, but the mortality from the disease can be subjected to intelligent and deliberate control if a proper degree of co-operation is brought about between an aroused medical profession and an aroused public interest."

While much work has been done we must acknowledge that we have only touched the surface. As Chairman of the Committee I want to acknowledge good work done by all members of the Committee, but especially by Dr. A. C. Scott, who has practically given the entire year to the service of the State Medical Association, and a large part of that to Cancer Committee work. The State Medical Association will be under lasting obligations to him. We also wish to acknowledge the wonderful aid from many civic societies, notably the Rotary, Lions, Kiwanis and Canopus Clubs, and all other civic organizations which have aided us. We must express our thanks to the many churches which have opened their doors to us for this work. Thanks should be extended to all newspapers, many of which have contributed liberally of their space for our publicity campaign. Special thanks should be extended to the *Dallas News*, not only for publishing many articles but for the liberal use of their radio for disseminating information in regard to our work. They are the largest single means of reaching the public and we are grateful to them for this.

Evidence is accumulating of the terrific damage done to cancer patients by the many cults, sects and others, with their bizarre forms of treatment. The christian science movement does the greatest harm to the cancer victim. The Abrams treatment is heinous in its conception and is nothing less than criminal in its application. As to chiropractors, magnetic healers, *et al*, there is no language capable of expressing the contempt we feel for them. The only hope for the cancer patient is early recognition and immediate radical treatment, and this single hope is destroyed by the above mentioned abortions of disordered imaginations. The work of the Cancer Committee is so inseparably bound with these problems that it is recommended that no opportunity be passed to destroy their influence.

Many physicians are under the impression that observance of Cancer Week, proposed by the American Society for the Control of Cancer, is all that is necessary in the annual work. While this is the climax of our year's work it must be understood by all that cancer control work is a 52-week problem; we must be on the job the entire time. This has resulted in many societies not holding programs, because of the fact that they had no meeting or were otherwise engaged and therefore failed to have a cancer program

at all. The Cancer Committee hopes that during the incoming year county societies in planning their programs will recognize this and plan one or more cancer problems regardless of the date on which Cancer Week falls.

The difficulties of last year have been met to some extent but in a measure they still hold. Among them we should mention first, the lack of co-ordination between the presidents and secretaries of the various societies, not only as to time but as to who could do the best work along this line.

Second: While many ministers have appreciated this work many more have not. In New York, for instance, several denominations have entered into the spirit of the work and have been the means of reaching many people who otherwise would not have this information.

Third: The ever-recurring demands for funds is not met.

Fourth: There apparently is a lack of thorough information among our profession.

Your Committee recognizes the wonderful work of the American Medical Association on the cancer problem, and the high standards of the American Society for the Control of Cancer and its co-operation are very much worth while, yet there are obvious problems peculiar to each state.

It is, therefore, recommended that, while local problems are different from national problems, the national plans both of the American Medical Association and of the American Society for Cancer Control, be used as far as applicable, and that such other procedures as are locally indicated be used.

And, whereas there has been considerable difficulty in organizing our work in some of the counties, it is recommended that an official or unofficial committee, consisting of one member of each county society be made a sub-committee of the regularly appointed State Committee.

And, whereas there is constantly a lack of funds for publications of various sorts, and other expenses, that a voluntary subscription of at least one dollar per capita be made by county societies, for carrying on this work.

And, whereas a first requisite for satisfactory services is not only education of the public but education of physicians, it is recommended that clinics be held in every center in the State where material is available, for diagnosis and treatment of malignancies of all kinds can be made and taught. These clinics are to be held once or twice a year and divided among the various branches of medicine so that all types of malignancies can be covered. It is believed that this plan is feasible and practicable and will be appreciated by most physicians.

And, recognizing the above limitations, it is recommended that at least three programs a year in each county society be devoted to the different phases of cancer diagnosis and treatment, with particular stress being laid upon pre-cancerous lesions.

This report cannot be closed without expressing thanks to our President, Dr. Joe Becton, and to the Board of Councilors, and also the many Fellows of our Association who have rendered wonderful service, and last, but not least, to our efficient Secretary-Editor, Dr. Holman Taylor, whose forceful and striking editorials have been a wonderful means of stimulation and encouragement. We have never asked for a thing pertaining to the State Medical Association, no difference how arduous compliance may have been, that he has not willingly responded, and we heartily thank him for his many efforts in behalf of this work.

Respectfully submitted,
I. L. McGLASSON, Chairman.

The report was referred to the Reference Committee on Scientific Work.

The President: The Texas Delegate to the Association of American Medical Colleges, Dr. Keiller.

REPORT OF DELEGATE TO ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

A short report of this meeting will be found in *The Journal of the American Medical Association* for March 24, 1923.

It is exceedingly difficult to formulate any general impressions of this meeting. "The Problems of the Two Year Medical School," was the subject of a paper by A. E. French, but this does not affect Texas schools. With the limitation of students in almost all Class A schools, it has become a very serious problem for two year medical schools to know what to do with their students for the clinical years, and it seems probable that unless these schools can establish clinical courses with State aid, they will largely have to go out of existence.

A required interne year was discussed by Dr. G. S. Downing. This is a subject which is far from settled, the main trouble being that very few schools have command of a sufficient number of hospitals, where they can supervise the character of the interne work given, and unless that can be under school supervision, medical schools do not feel that they can hold themselves responsible for an interne year as a prerequisite to graduation.

Incidentally, the Medical Branch of the University of Texas has considered this matter carefully, and it has been found inadvisable to require an interne year, for two reasons. A sufficient number of hospitals would welcome such a requirement because it gives them a better hold over their internes, but only a very few of these have formally intimated that they would be willing to report regularly the character of the service being rendered, or have internes send regular reports of their work. It is a serious difficulty, also, to know what to do with the poorer grade of graduating students, as every hospital granting us the privilege of recommending internes wishes to select the best only. Also, interneships in many hospitals are far from satisfactory, the internes coming into far too little contact with private cases, visits being made too irregularly, and in many cases the internes being little more than glorified orderlies.

Dr. Theodore Hough's paper on increased premedical requirements showed that the premedical requirements of the University of Texas are already well in line with such increases as he desires.

The medical curriculum was again a subject of report. The medical curriculum as given by the University of Texas gives almost invariably a higher percentage in required subjects than that recommended by the Committee on Education and Pedagogics, the committee allowing a larger percentage in elective subjects. The Faculty of the Medical Department feels, however, that if they are to give the best possible preparation to all round general practitioners, they cannot afford to reduce the required subjects as shown in their curriculum at the present moment.

There is still some discussion along the lines of introducing clinical subjects earlier into the medical curriculum. Your delegate believes that the extreme position expressed by Dr. Bevan, in his recent article in *The Journal of the American Medical Association* where he suggested introducing clinical courses even to the freshman year, is of the nature of a falling back on antiquated methods rather than an improvement. I still believe that the balance of medical opinion is in favor of a thorough training in fundamental subjects in the freshman and sophomore years, and that only after this training are medical students fit to profit by clinical teaching.

Your delegate had the opportunity of reading a paper on "The Place of Anatomy in the Medical Curriculum," in which he deplored the practice of most schools by which they complete the laboratory teaching of anatomy in the freshman year, and urged that anatomy be taught through the freshman and sophomore years and supplemented by a laboratory course in applied anatomy in the junior year.

Respectfully submitted,

W. KEILLER.

The report was referred to the Reference Committee on Scientific Work.

The President: Delegate to the Colorado State Medical Society, Dr. Wardlaw.

REPORT OF THE DELEGATE TO COLORADO.

Dr. W. N. Wardlaw of Childress: I haven't any written report. I attended the Colorado State Association, which met in Colorado Springs in October, and if I had heard Dr. Moore's report before I went, I would have been a better qualified delegate. They are having the same trouble in Colorado that we are having in Texas, They were fighting an anti-vivisection act in their legislature, and the whole profession was worked up to a high pitch.

Their scientific work is admirable. They had a program that moved like clockwork from beginning to end. Their society is not as large as ours; it can be handled easier. The president presides over all meetings, scientific, House of Delegates and all. The entire program, as printed, was carried out from the beginning to the end without a break. Every author was present, every paper was read, and they wound up on time.

The President: Delegate to the Louisiana State Medical Society, Dr. Pollard.

REPORT OF THE DELEGATE TO LOUISIANA.

Dr. W. J. Pollard of Kaufman: At the request of your President, I visited the Louisiana State Medical Society April 24th to 26th. I have no written report. I understood my duty to be to tell them "Howdy," extend to them the warm hand of fraternal love and bid them to come to Texas, which I did. I met four hundred of the best doctors I ever saw outside of Texas. I personally felt that it would be a homecoming for me, for the reason that I happen to be a native of that state and was for a long time a citizen and physician of that state. For ten years, I was a member of that society, but having left there more than a quarter of a century ago, going back was a serious and sorrowful disappointment. Of all the physicians that I knew in my younger days, I found just four at the meeting. The program, both scientific and social, was the equal of anything that I have ever seen, and it ran without a hitch that I know anything about. I expect that some of those doctors will come to Texas some time, and when they do, I know that Texas will treat them well.

The President: Reading of communications, please.

The Secretary: Mr. President, a telegram:

"Texas Medical Association in annual session assembled, Texas Hotel, Fort Worth, Texas. Greetings. We hope you are having most successful meeting.—SOUTHERN MEDICAL ASSOCIATION."

The Secretary: I likewise have a communication here from the Southern Medical Association, inviting the State Medical Association to go to San Francisco on the special Southern Medical Association train. I presume it is not necessary to read the letter, in view of the fact that this Association has its own special to San Francisco.

The Secretary: The President directs that I leave off a part of this telegram:

"Many congratulations for your unprecedented success as President of the Texas State Medical Association. Shake hands with all of my old friends. With my very kindest regards.—M. SMITH."

The Secretary: The old-timers here, like Miller and Russ, will remember Dr. Smith as one of the original Board of Councilors, from the great North Texas district.

The President: Reading of memorials and resolutions.

Dr. M. F. Bledsoe of Port Arthur, introduced resolutions calling upon the Veterans' Bureau to cease giving vocational training in chiropractic to disabled veterans, which resolution was referred to the Reference Committee on Memorials and Resolutions.

Dr. A. P. Howard of Houston, introduced resolulutions relating to and defining "State Medicine," which was referred to the Reference Committee of Memorials and Resolutions.

Dr. P. C. Coleman of Colorado, representing a committee from the Board of Councilors, consisting of Drs. Thorning, Killough and himself, introduced resolutions recommending certain changes in Section 6, Chapter XIV; Section 4, Chapter X, and Section 7, Chapter IX, of the State Association By-Laws, all of which were referred to the Reference Committee on Amendments to the Constitution and By-Laws.

The President: The Board of Councilors desires to make supplemental report.

SUPPLEMENTAL REPORT OF THE BOARD OF COUNCILORS.

As indicated in the Secretary's report, our numerical strength is greater at this time than ever before on the second day of our annual session. We have 3,598 paid-up members, which is 146 above that of a year ago at this time.

We desire to call to your attention at this time the fact that Texas is not in the vital statistics registration area of the United States, on account of the failure of doctors to report vital statistics. We are informed by the State Board of Health that only about 65 per cent of the births in Texas are reported. It is recommended that county secretaries co-operate with the State Board of Health to correct this condition. The State Board of Health plans, with the help of the Board of Councilors, to communicate to county secretaries the names of doctors who have not found it convenient, or who have not been able to make, these reports. The county secretaries, through their councilors, can suggest the necessary things to be done to make it convenient for them to so report. The point is, it must be done.

In order to carry on the work of the educational section of the Council on Legislation and Public Education, there must be more funds than there are at present. It is recommended by the Board of Councilors that county societies make voluntary levies on their members, of an average of five dollars, at least, to be turned over to the Council on Legislation and Public Education. This could not be made obligatory. Our by-laws call for five dollars and no other sum can legally be collected. We suggest five dollars—it can be more. I have heard in the last two days that there are any number of our members who are going to give five, ten and some as high as a hundred dollars. At a later time, through proper channels, more definite information will be forthcoming.

Respectfully submitted,

M. F. BLEDSOE, Chairman.

Upon motion the House at this point recessed until 2:00 p. m.

AFTERNOON SESSION.

The House was called to order at 2:00 p. m. by the president.

The Secretary: The following telegram has just been received. It is from Mr. Reese, our advertising

manager, who is in Austin at this time looking after our legislative interests:

"House voted large majority to print chiro bill in *Journal*. McMillin bill on Senate calendar today. Chiros have tremendous lobby. Situation really serious. Our friends discouraged because doctors not present to counteract chiro influence. Many battles have been lost by over-confidence."

The Secretary: Printing a bill in the *Journal* saves about three days time. Time is often a vital thing. The House recently refused to permit publication in the *Journal* of the amendments proposed by the State Board of Medical Examiners, when the time thus sought to be saved might have meant the life of the bill. The fact that the House has at this time permitted this procedure means that the chiropractors have gained some sort of advantage. The McMillin bill is the chiropractic bill in the Senate. In my opinion, this telegram was inspired by some of our friends in the Legislature. Mr. Reese does not talk like that. Of course, it is not over-confidence on our part that we are not in Austin. We are just at this time victims of circumstances. I make the motion, Mr. President, that this telegram be read before each scientific section now in session, and that all who will do so be urged to immediately send telegrams to their senators and representatives, opposing these chiropractic bills.

The motion was seconded, put and carried.

The President: I will ask Dr. Thorning to read this telegram before the Scientific Sections, as directed by the House of Delegates, and inform members in attendance of the action just taken.

The House adjourned yesterday on "New Business." If there is no new business we will hear reports of such of the reference committees as are ready.

Dr. C. P. Yeager, chairman, thereupon presented the first report of the Reference Committee on Finance, as follows:

FIRST REPORT REFERENCE COMMITTEE ON FINANCE.

We have carefully gone over all reports pertaining to the financial condition of the Association, and find as follows:

1. The Treasurer's report shows the Association to be in a prosperous and financially healthy condition.

2. We approve the Trustees' recommendation that the First National Bank of Greenville, Texas, be continued as the depository of the Association for another year.

3. We heartily agree with the Trustees in their decision in regard to the extra expenditures in helping to amend the Medical Practice Act, and especially in the extra money spent in having a stenographic report of all the proceedings, as we think it valuable data for future political reference.

4. In regard to the money spent in having a stenographic report of the discussion of papers read before the Scientific Sections of the State Medical Association, we think the matter may well be left to the judgment of the Trustees.

5. It is with pride we see the commendatory remarks of the Public Accountant or Auditor, in regard to the safe way our finances are being handled.

6. We notice what the Trustees say in regard to helping the Committee on Collection and Preservation of Records, and give their decision our hearty approval.

7. In regard to the suggestion that the salary of our Secretary-Editor be increased, we gladly give this suggestion our hearty approval.

C. P. YEAGER, Chairman,
E. M. FOWLER,
W. T. BLACK,
J. N. WHITE,
C. M. COVINGTON.

The President: You have heard the report. What is your pleasure?

Dr. H. C. Reynolds: I second the motion.

Upon motion of Dr. A. W. Acheson, seconded by Dr. H. C. Reynolds, the report was adopted.

The President: The Reference Committee on Scientific Work.

FIRST REPORT OF REFERENCE COMMITTEE ON SCIENTIFIC WORK.

We beg to offer the following recommendations:

1. That the by-laws be so amended that the Committee on Scientific Work shall hereafter be known as "The Council on Scientific Work."

2. That the Committee on Scientific Work shall be composed of five members, the President and Secretary of the Association to constitute two of its members, the other three to be elected by the House of Delegates, one each year, each member to serve for three years, on the first election the three to draw lots for their respective terms of office.

3. The duties of the Council on Scientific Work shall be as follows: To handle all matter relating to scientific programs, scientific exhibits, post-graduate courses planned by the two medical schools of the State; encouragement of research work, and especially to stimulate local societies over the State to produce more and better papers and programs.

4. That the by-laws of the State Medical Association requiring all papers to be presented to the State Association shall be read in full and not by title, before county societies.

5. That the Council on Scientific Work shall have the right and power to request the submission of papers read before county societies, for their approval before being published in our official JOURNAL.

6. That the Council on Scientific Work, acting in conjunction with the President, a member of the Council, shall plan a definite program of subjects to be presented by invited guests, who are to be speakers before the Association.

7. That the by-laws be so amended as to revise the captions on Scientific Section, as follows: That the section of State Medicine and Public Hygiene be hereafter known as Section on Public Health; Section on Ophthalmology, Otology, Rhinology and Laryngology, be hereafter known as Section on Eye, Ear, Nose and Throat; Section on Medicine and Diseases of Children be hereafter known as Section on Medicine, and that the Section on Gynecology and Obstetrics shall hereafter be known as the Section on Obstetrics and Gynecology, and that the second day of this program be devoted to obstetrics.

8. That the chairmen and secretaries of the various scientific sections shall confer with the Council on Scientific Work in preparing their programs for the annual sessions.

Respectfully,
J. M. FRAZIER, Chairman,
F. PASCHAL,
J. D. OSBORNE,
C. R. HANNAH,
A. D. NELSON.

The President: You have heard the report of the committee. What is your pleasure?

The Secretary: Is it intended that the recommendations of the committee be considered as amendments now, or is it intended merely to establish the views of the House in regard to how the by-laws should be amended?

Dr. Frazier: It is recommending that this be established as the views of the House.

The President: Suggestions from the committee?

Dr. Frazier: Yes.

The Secretary: I make the motion, so as to facilitate matters, that this report be received and referred to the Reference Committee on By-Laws, to be considered in connection with their recommendations.

The motion was seconded by Dr. J. N. White, was put and carried, and the report of the Reference Committee on Scientific Work was referred to the Reference Committee on Constitution and By-Laws.

The President: In order to expedite matters, the chair will rule that discussion be limited to five minutes. If the House wants to hear any speaker further, a motion to that effect will be heard.

The Reference Committee on Amendments to the Constitution and By-Laws.

Dr. F. P. Miller then read the first report of the Reference Committee on Amendments to the Constitution and By-Laws, as follows:

FIRST REPORT REFERENCE COMMITTEE ON AMENDMENTS TO CONSTITUTION AND BY-LAWS.

No amendments have been submitted to us.

We have considered the President's message, wherein he advises a complete revision of our Constitution and By-Laws. We approved this suggestion for several reasons:

1. Medicine is a progressive science; medical organizations should be progressive. We should not try to function under a constitution written twenty years ago.

2. We find in various reports and recommendations submitted to us, many suggestions that are wise, but they cannot be carried out under our existing organic law.

3. There is large duplication of activities and efforts by the various councils and committees, which can be corrected only by a careful rewriting of our whole system of laws.

In view of these facts, we recommend that the President appoint a committee of five, to prepare and submit a complete revision of our Constitution and By-Laws at the next annual meeting. The President, President-Elect and Secretary, to be ex-officio members of this committee.

Respectfully submitted,

WINFRED WILSON, Chairman,
J. H. LANDER,
F. W. LAWSON,
GEO. D. LAIN,
F. P. MILLER.

The President: What will you do with the report?

Upon motion of Dr. J. N. White, seconded by Dr. T. T. Horton, the report was received and filed.

The President: Is there any other committee ready to report? If not, Dr. Dorbandt has a resolution he wants to present.

Dr. Thomas Dorbandt of San Antonio: The Bexar County Medical Society instructed their delegates to offer an amendment to Article VI, Section 2, of the Association By-Laws, pertaining to the election of officers.

The President: The amendment will be referred to the Reference Committee on Constitution and By-Laws.

THIRD REPORT, REFERENCE COMMITTEE ON CREDENTIALS.

The Secretary: The Reference Committee on Credentials makes a supplementary report, in which it is recommended that Dr. J. E. Morris of Madison County and W. M. Young of Dallas county, be seated.

On motion of Dr. Bunkley, seconded by Dr. Reynolds, the delegates mentioned were declared seated.

The President: We have the honor to have with us today one who has done as much or more than any other one doctor in the South for organized medicine. He is chairman of the Board of Trustees of the A. M. A.; he is president of the Louisiana State Board of Health—Dr. Oscar Dowling of Shreveport. (Applause).

ADDRESS OF DR. OSCAR DOWLING.

Dr. Oscar Dowling: It is a great privilege and an honor, to have this opportunity of appearing before you and bringing you the greetings of the American Medical Association. It was especially requested that I come here and say, "Howdy" to you, and express appreciation of the great work you are doing, the splendid support that Dr. Taylor, through the JOURNAL, has given to the American Medical Association. We congratulate you on the fact that you cover the largest territory of any organization in the American Medical Association, and that you have such loyal, faithful and efficient doctors, and we hope that it will not be long before you will have one hundred per cent of the reputable medical profession as members of your organization.

I am also asked to remind you of *Hygeia*. I probably will tell you more about this publication in a little while. I have also some pictures of the American Medical Association building, and of some of the work that is being done there, which I will show in the General Session. Dr. Taylor, and those of you who have been going to the American Medical Association meetings, know about those matters, but we want you all to know and realize what you have, and that it is just as much your organization as that of any other living individual. Every member of the Texas State Medical Association is also a member of the American Medical Association, whether he is one of the Fellows or not. You have as much to say in the management of that organization as anyone else.

Now, without detaining you further, I want to tell you that the Board of Trustees feels toward you as a father feels, if there is anything that the Trustees are not doing that you think they should do, tell them about it. Your delegates have as much to say about them as anybody else, and if you let them know what you want done they will undertake to do it. Again I want to express my appreciation of the opportunity of being here. The Board of Trustees sends you most cordial greetings from the American Medical Association. (Applause).

I want to tell you, before I sit down, that Mr. D. F. Moore has recently come to Fort Worth from New Orleans, where he was the manager of the *Times-Picayune*. I left his office a few minutes ago, and he said to me that it was his idea to eliminate from the *Record* all the patent medicine advertisements, and the like, and in the course of a few months, as soon as he can work up to it, he is going to call on Secretary Dr. Taylor to assist him in having the censorship put into effect. (Applause).

The Secretary: I would like to suggest that Dr. Dowling, if he will, talk Mr. Moore into giving us a write-up of this meeting. The *Record* had a half a column this morning in the middle of a page in the second section. (Applause).

Dr. F. W. Francis: I would like to state that the reason for that was the fact that the reporter who was covering this convention for the *Record*, is in process of being fired. He got mad yesterday afternoon and spilled the beans.

The President: Dr. Rosser, will you please report, as delegate to the Texas Dental Society and the Texas Pharmaceutical Society?

Report of the Delegate to the Texas Dental Society.

Dr. C. M. Rosser: Because of the inability of the appointed delegate to the State Dental Society to attend the meeting at Fort Worth, the President called upon me to fill the place. I came and did the best I could. I was glad to come, and very glad I was here when I arrived. On that very morning we had received information that the opponents of rational medicine, those who are desirous of a sub-standard qualification, built not for the protection of the sick but for the convenience of mediocre, untrained and single-track minds, were introducing in the Legislature a bill which would in a large measure nullify the splendid service which the Legislature had just rendered the State by the passage of the Medical Practice Act amendments.

I took occasion to explain the situation to the splendid body of men I was addressing, something over four hundred of them, and to give them some of the reasons why they, as allies of our profession, should join with us in a righteous war against ignorance and avarice. I asked them to aid us in protecting Texas from a further partnership in crime, and in securing a divorce from complicity in negligent homicide. I have never seen a more responsive audience. I have never known men more determined than they appeared to be. I said to them, "In your own way, at your convenience, determine that you shall aid us in seeing to it that the blood of the innocent children, of the controlled children, too young to have their own decision, too controlled to be permitted to exercise one should they desire, shall not be upon educated, professional men, identified even as an allied science. They didn't wait for me to get off the platform, they said, "We need no time to consider it, we are ready now." A strong resolution was introduced. Somebody said, "Make it stronger"; another said, "Burn the wire." Well, if the wire wasn't burned, it was because the committee appointed after a conference with me, was not able to frame the language so that it would sizzle. Then the president said, "I should like to see all those rise who are willing to communicate with their Senators and Representatives within the next twenty-four hours." And more than three-fourths of the entire audience rose at once. I saw a number of them afterwards, and heard them inquiring the way to the telegraph office. The president suggested that "Some of us should go to Austin, to see the Senators and Representatives." We need all the help we can get, and the dentists will help us now and hereafter. (Applause).

The President: I am going to ask Dr. Russ to discuss the problem of legislation and public education.

Address of Dr. W. B. Russ.

Dr. W. B. Russ of San Antonio: The program proposed by the President for a well-financed campaign of education, conducted by an enlarged Council on Legislation and Public Instruction, is the most important work ever proposed for the State Medical Association. We can never hope to render our *best service* to the public until the thinking people understand the meaning of medical education and its vital importance to the public welfare.

The doctors are themselves responsible for the state of public mind which permits medical fanatics and cranks and fakers to exist and prosper in this enlightened age. The doctors have only themselves to thank for the sad fact that even the most intelligent part of the general public are in matters pertaining to public health and the management of the sick, as ignorant as were the savages who roamed the prairies of Texas when Columbus discovered America. The poor Indian depended upon the ministrations of his professional medicine man trained in the management of the sick and familiar with the psychology of his people, who chased away the devils of sickness by the use of charms and amulets, elaborate ceremonies and weird music, while many of our very best people seem willing to trust the care of the sick to chiropractors who, for the most part, are ignorant persons unequal to any occupation more exacting than the treatment of the sick by a mere *trick* and whose mentality permits them to accept the theory that all diseases are caused by the pinching of nerves between the vertebrae. Why do doctors not point out to the deluded victims of these crude psycho-therapists the manifest absurdity of the proposition that vertebrae which during the winter months pinch nerves causing colds, sore throat, influenza and pneumonia, stop pinching these nerves with the coming of spring, and that other vertebrae during the spring and summer months pinch nerves causing bowel disorders?

Another example of ignorance on the part of the public for which doctors are responsible, is the christian scientist power-of-healing claim, founded on the theory that because abuses of the protecting emotions of fear, pain and rage cause illness and delay recovery, the remedy for all mental and physical ills is the complete abolishment of these most important protective emotions, without which man would be as helpless and useless as a jelly fish.

The medical profession is also responsible for allowing quacks and faddists to go unchallenged in their industrious spread of the absurd story that vaccination causes syphilis, and that post-mortem examinations have demonstrated that the medical profession treats from sixty to seventy-five per cent of patients for ailments they do not have. Neglect to properly educate the public makes doctors responsible for the state of the public mind which favors putting aside all that the study of science during the past one hundred years has given to the world for the protection of life and health. It is an amazing fact that the average layman thinks that a religious fanatic who proposes to cure disease by abolishing the protective emotions and an ignorant faker without any education whatever who proposes to cure ill by a mere trick, are on the same mental and moral plan with men who have devoted their lives and best energies to acquiring a medical education.

The doctors are responsible for the idea that the *practice of medicine consists in the use of drugs*, and for the absurd notion that the modern science of medicine is a *school of medicine*, in the sense that the regular medical profession is devoted to some scheme for the treatment of disease and is opposed to accepting new ideas.

By their own foolish and short-sighted criticism of each other, the doctors are responsible for the lack of respect that the public show to the medical profession.

Any campaign of education should begin with the doctors and later, through the doctors, the public can be made to understand that the control of yellow fever and small-pox and cholera and bubonic plague tropical dysentery and malaria and tuberculosis and the prevention of occupational and environmental diseases and a knowledge of the problems that have to do with the diagnosis of diseases, have nothing to do with *schools of medicine or systems of practice but are based upon exact, scientific knowledge which can only be acquired by education.* Through doctors the public must be made to understand that the testimonials of quacks, fakers and fanatics, spell fraud and should excite the suspicion of every honest and intelligent person. The public must be made to understand that the cures wrought by Mohammed and Buddha and the early Egyptian and Babylonian

priests, and by the magic waters of springs, the Indian medicine man and fanatics like Dowie, Schlatter and Mrs. Eddy, and by the magnetic healers, Peruna, Swamp-Root and by christian scientists and chiropractors, and often by doctors, are brought about by the power of suggestion alone. In other words, the medical profession must be educated and enthused with a desire to educate the public. Only in this way can the people be freed from the chains of ignorance and superstition. Surely, this is a great and a worthy work.

The President: I will ask Dr. Scott to present Dr. Crowe, who will further discuss the subject.

Dr. A. C. Scott: It had been my expectation to make a talk to you along the lines that Dr. Russ has just talked. I intended, however, to present some facts and figures, to discuss the question of the interest of the medical profession largely from a financial standpoint, and to point out to you some of the dangers which are threatening us just now. Time this afternoon will not permit me to speak.

I am pleased to introduce to you one of the original workers in preparing the Medical Practice Act of Texas, so splendidly completed at the recent session of the Legislature. While we may differ in opinion as to treatment, I extend the right hand of fellowship to him. He is honest at heart, has the high purpose of elevating the standard of medical education, has shown a desire to fight quackism and crookedness, regardless of what anybody thinks about it. No one took a more active interest and no one worked any harder for the Medical Practice Act in the recent session of the Legislature than Dr. Crowe of Dallas, Secretary of the State Board of Medical Examiners, whom I introduce to you.

ADDRESS OF DR. T. J. CROWE.

I appreciate very much, more than I can express to you, the compliment that was paid me by Dr. Scott, and also the privilege of speaking to you. I have taken some little interest in medical education and have tried to contribute my mite to getting effectual medical laws. I might preface my remarks by saying that I think Dr. Russ, in his talk, hit the nail pretty squarely on the head, except that he might have said more than he did say. In my opinion, the medical profession itself is altogether to blame for failure to secure medical legislation—that is, proper and reasonable medical legislation. I say that because it was very forcibly impressed upon me during the recent session of the Legislature, and in the fight we made to get the bill through. I presume you are all aware of the fact—if you are not I can tell you, that Texas has the very best medical practice act in existence, not only in the United States, but in the world, because it is non-discriminating and treats every applicant for license the same; and it seems to me it is up to this organization to do something to maintain the status of that law.

I have always believed that the closest kind of relations should exist between the State Board of Medical Examiners, the State Board of Health, the County and the City Health Officers, the Public Health Service and the legitimate medical profession; and when I say the legitimate profession, I mean, of course, all of the legalized medical organizations. Had the bill we submitted to the Legislature this year been sponsored by an organization representative of all of these factors, it would have gone through without trouble, instead of having been reduced to a near failure. I believe you know that we did not get all we asked for; that we lost some clauses that might have been very effectual had they been left in the bill, especially the one that provided for hearings and revocations by the State Board of Medical Examiners. Had this provision survived the Board could, after conviction in one of its hearings, revoke a physician's license and make him go into court in order to reinstate himself. That sort of a provision in the law would have helped us a lot. But we didn't get it through. We did, however, get a provision which will make it possible for us to take care of cases which the District Attorneys are disinclined to prosecute for violation of the Medical Practice Act. We did get a provision which makes it the Attorney General's duty to send a prosecutor into any county or district in which the local officers fail or refuse to prosecute.

I believe the organization of a State-wide committee, whose duty it shall be to look after medical legislation, to propose desirable public health measures and to support them before the Legislature, should be considered at the time. Such a step should not be put off, because we will have another and more difficult fight on our hands in the next session of the Legislature, if it does not occur in the present called session.

I believe it is the duty of the Texas State Medical Association to arrange for some sort of a State-wide legislative organization, the membership of which shall be representative of not only the State Board of Medical Examiners, but of the State Board of Health, the County and the City Health Officers, and the legitimate medical organizations of the State. Such an organization could take the lead in efforts to secure medical legislation without being subjected to the criticism that it was partisan and, therefore, prejudiced. Such a joint committee or council, which ever you choose to call it, could do much more effectual work than a single organization; and it could more effectually handle propaganda throughout the State.

The trouble we encountered at Austin was, principally, that whenever our bill was before the Senate or the House for consideration, the opposition, in talking against it, would point to the gallery, where only a half-dozen physicians were present—as a rule, and say, "There isn't anybody who wants this bill except those three or four doctors you may see in the gallery, and who hang around here all of the time. They want this bill. You haven't heard that the medical profession wants it; if the doctors of the State wanted it they'd be here. Dr. Taylor, Dr. Scott, Dr. Becton, Dr. Rosser, Dr. Moore and Dr. Crowe, are the ones who want it. Every time the Legislature meets they are here with some kind of a bill. But the people have not asked for such a bill, nor do they want it."

If those named, and a few others, are willing to give their time, their energies and their money, to the performance of such a service, it seems to me it is up to all of you to take an interest in such matters; and if you do take the right kind of interest, in the future you won't have very much trouble with the Legislature. It is your fault—(pointing out members of the House of Delegates) and your's and your's, that we did not get what we asked for in our bill; that we came so near being whipped in the recent fight for an effectual Medical Practice Act. It was because we did not get the co-operation we ought to have had, and early enough; in fact, we did not get it at all. Our educational campaign was started late. Nothing effectual had been done when the legislative session was opened. I had hoped that it might be started early; that the legislator should be educated by his family physician before he went to Austin. I believed that if the family physician or any physician in the legislator's home town or county, got to him and educated him along medical lines before the chiropractor approached him, the chiro would have a hard time undoing what the physician had done. But the chiropractors got to the legislator first, and the doctor had to do all of the

undoing and all of the changing of minds, which was some job, as you all know.

Had medical men generally taken the same interest in putting through the Medical Practice Act as was taken by such men as I have mentioned, and some others, hundreds of doctors would have been in the galleries instead of the few. There was no comeback, because it did look like the physicians of the State were not interested. Dr. Russ told you the truth concerning medical legislation, but he did not tell you the whole story.

I told the Medical Congress, at Chicago, two years ago, that the medical profession had been busily engaged for a number of years in building towers—lofty educational towers, from which to blow soap bubbles on a heedless passing throng. Somebody in the audience misunderstood me to say "Helpless" passing throng and got up and romped on me, believing I had intended to make little of our educational institutions, which intention was farthest from my mind, as I later assured him. The point I intended to make was that the medical profession has spent a great deal of time in educating itself, but that it has given no attention to educating the public to a proper appreciation of such efforts; that we require our own sons and daughters to give ten of the best years of their lives to preparation for the practice of medicine, only to have them come home to sit idly in their offices for five or ten years more, while the chiropractic of three-months' training crowds his office with a paying clientele.

That the public does not yet appreciate the value of medical education was forcefully demonstrated in the first joint hearing on our bill, and in the subsequent fight before the Legislature. When, in the first hearing before a joint committee of the Senate and House, our speakers had finished their arguments in favor of the bill, the christian scientists and the chiropractors, instead of presenting argument, put on a regular testimonial affair. The chiros had a girl of 10 or 12 to stand on a table in the center of the hall, where she could be seen by every person present. After introducing her, they exposed her right leg, on which, just above the knee, there was a hump like a camel's back. They said that she had been operated and operated by the doctors without benefit; that when she was turned over to the chiros three inches of the bone was sticking out. "Thank God for the chiropractor! Look at her now; she is well, and standing before you." The next case presented was that of a young lady who said that some years before she had suffered a severe attack of blood-poison, by which she had been made deaf, dumb and blind; that she had tried the physicians without result; that she finally went to see a chiropractor, who restored her sight, her hearing and her voice. Now she was before that great audience and she could see and hear, and was talking to them. Thank God for the chiropractor! Why shouldn't these good men be allowed to practice, when they can cure cases that the medical doctors were unable to do anything with? Why shouldn't these wonderful men be given a license?

That was the argument; and it sounded good to those present who didn't know any better than to believe what they had seen and heard.

For the christian scientists, a woman got up and said she had been an invalid for 14 years—from her 7th to her 21st year—and that during all of that time she had been under a doctor's care, without benefit. As the result of one christian science treatment she was restored to health. Thank God for the christian scientist! Why should they not be allowed to cure cases that the doctors could not reach?

I am sorry to say that our excellent surgeons—and we have some of the finest—sat there and heard the histories of these cases without offering a proper explanation of the results. Of course, the fellow from up country swallowed it all, and believed it, too. "Wonderful! Wonderful!" I heard some of them say, "Sure! they should be permitted to practice."

Either Dr. Scott, Dr. Russ or Dr. Moore, could have explained away everything that had been said by showing that when all of the sequestra of dead bone had been removed by operation from that girl's leg, she would have recovered even if she had never seen another doctor, and that she would have been far better off if she had been left with the surgeon, who would have kept her off the leg until the new bone was strong enough to hold her weight, which would have prevented the buckling, which produced the hump. She would have had a straight leg. But the legislators do not know this, nor do the hundreds of other persons who were present; they think the chiro made a wonderful cure. As a matter of fact, nature did the work after the surgeon had removed all of the dead bone; and this child would have been much better off if she had never seen a chiropractor.

Almost the same explanation of the result in the case of blood-poisoning might have been made. This was a case of temporary degeneration of the nerve centers with loss of function, which was slowly restored as regeneration progressed.

Dr. Russ put a pertinent question when he asked, "What are you doing to educate the public. Are you too dignified to explain these conditions to the public, so that the people may understand them?"

I believe that if a primary work on bacteriology were added to the curriculum of the grammar schools—I say the grammar schools, because, as a famous catholic priest once said, that which is trained into a child's mind before the twelfth year will permanently remain—it would go a long way towards settling the problem of medical education. Get the facts of bacteriology into the heads of the children—convince them that bacteria are real, and not mysterious things, and they'll take care of the future of the chiropractors and other medical fakers.

If you maintain your present Medical Practice Act, and require the men and women who come up for license to take a course in bacteriology, histology and pathology, you will have settled the problem of licensure in so far as Texas is concerned. When they have mastered these subjects they will have forgotten all about chiropractic and other nonsensical methods of practice, because by that time they will have realized that they have been monkeying with moonshine. When their eyes have been opened to the realities of bacteriology, pathology and histology, they will quit or go on and become real doctors.

I trust you will pardon me for again suggesting that a State-wide organization for carrying on the legislative program be considered by your Association in its present meeting, because from now on the chiropractors and the christian scientists will put on intensive attacks.

You all know that the family doctor can do more with the legislator than anybody else, if he is inclined to do so. If he is not so inclined he will, of course, let the law-maker go to Austin, as he did last year, without instruction and without coaching; when he will probably take the story of the chiropractor with him.

On the floor of the Senate, in the regular session, while our bill was under consideration, one of the Senators told about his own experience with doctors. He said he was ill and he visited a clinic of eminent doctors in Dallas. He was examined and told that he must be operated upon. He then consulted a group at Fort Worth, where he was again told that he must undergo an operation, but not the same as the one recommended by the Dallas doctors. He quit the doctors, so he said, and visited a chiropractor,

who for $25.00 restored him to health. This Senator believes he was cured by the chiro, and he was on the floor of the Senate fighting for a law for them. So you see what you've got to do to educate the public; and the sooner you get at it the better, because you've got to commence at the beginning.

There are some other things you should consider here, and one of them is the matter of prosecutions for violations of the Medical Practice Act, some systematic plan for handling prosecutions for practicing without a license. I do not know what that method should be, but you should consider it. A great many physicians think that the State Board of Medical Examiners should prosecute these cases. This is not so. The Board has no more authority than private citizen in these cases. It is the duty of the District Attorney to prosecute them on complaint, and it is your duty as much as it is mine, to make complaint. In the case of one who secures a license through fraud or misrepresentation or one who is guilty of a felony and has been convicted, the Board has to undertake the prosecution of such cases in order to revoke the license of the offender.

If you're afraid to make the complaint in such cases, or if you cannot induce your District Attorney to prosecute don't try to shift the responsibility to the State Board. The Board makes enemies enough in doing its legitimate work. You'd probably be surprised to know how many enemies the Board does make.

While this is not the place nor the time to talk of offering more amendments to the Medical Practice Act, I believe that you will, in the near future, have to consider the matter of handling the secretarial work of the Board. My experience with the duties of secretary has convinced me that the secretary should be permanently located in the Department of Public Health or in the State Educational Department. The safekeeping and permanency of the records—many of which have been lost in the frequent transfer of the office from place to place, with each change of secretaries—demands that they be given a permanent home. From this time on one man's entire time will be occupied with the work of the Board, if proper attention is given to it. The present plan is unsatisfactory, because one has hardly learned the work when he has to turn it over to somebody else. As a result, the records have not been systematically handled and there is now no way to fix responsibility for failure to take proper care of them. The work requires some training, intimate knowledge of what has been done in the past, familiarity with the medical laws of other states and a knowledge of the educational institutions of the country, particularly medical colleges, and when he has acquired this knowledge he should be permanently employed, so long as his services are satisfactory. The office of secretary should not change hands with each administration, as so frequently happens under the present plan.

These are some of the important matters before us, the most important of which is the perfection of some sort of State-wide organization through which to make future appeals for medical legislation. Such an organization could silence the cry of "persecution" which was so frequently heard in Austin while our bill was under consideration. "Oh, yes!" they said, "that's the same Texas Medical Association crowd down here trying to get a bill through and using the State Board of Medical Examiners as a 'cat's paw.'" An organization which included in its make-up the entire public health service of the State, inclusive of the Board of Medical Examiners and the several societies of legalized practitioners, could go to Austin and get almost anything it asked for.

I do not now recall that a single health officer of the State co-operated with us or assisted us materially in the last campaign. We should have had the earnest co-operation of every health officer in the State. It should be their business to look after the incompetent doctors as much as it is their dutiy to wage war on the itinerant mosquito. He should be looking after the doctors on one hand while he is looking after the mosquitoes on the other. At all events, he should at least be interested in knowing that the doctors of his community are capable of recognizing and diagnosing contagions and infections.

The President: The Reference Committee on Amendments to the Constitution and By-Laws desires to make a supplemental report.

Second Report of Reference Committee on Amendment to the Constitution and By-Laws.

We unanimously recommend the changes advised by the Board of Councilors, as follows:

That Section 6, Chapter XIV, of the By-Laws, be revised to read as follows:

Section 6.—When a member in good standing in a component county society in this State, shall move into another county in this State, he shall, within twelve months from the date of his location in such county, transfer his membership without additional cost, to the county society in the county of which he is resident; and it shall be obligatory upon the part of the society in the county to which he removes to accept him as a member in good standing. If he comes from another state, where he is a member in good standing, the same rules shall apply, except that he will be compelled to pay that portion of county dues which are remitted to the State Association.

That Section 4, Chapter X, be revised to read as follows:

Section 4.—All addresses and papers coming before the Scientific Sections shall be presented in typewritten manuscript. All papers so presented by members of the Association must first have been read before the county or, when such county societies are, for any reason, not available, district societies of which the authors are members, and the secretary of such society shall certify to the section secretary or chairman that such papers have been read in toto.

That Section 7, Chapter IX, be revised to read as follows:

Section 7.—The Council on Legislation and Public Instruction shall consist of nine members, and the President and Secretary of the Association, and the Chairman of the Board of Councilors as ex-officio members. For the purpose of dividing the labor of the Council, five shall be responsible for legislative and seven for educational work. Members shall be appointed for terms of three years each, three to be named by each retiring President; but in the first instance nine shall be named, and they shall draw lots for terms of one, two and three years, respectively.

The suggestions of the Reference Committee on Scientific Work, which were referred to this committee, we consider wise, but after careful study we find that it will take an amendment to the Constitution to change the Scientific Committee to a Council on Scientific Work, and we recommend that the whole matter be referred to the Committee on Revision of the Constitution and By-Laws.

It is recommended that the following amendment to Section 2, Chapter VI, of the Constitution, be referred to the Committee on Revision of the Constitution and By-Laws:

The President, President-elect and Vice-President, shall be elected for a term of one year each. The Secretary and Treasurer shall be elected for terms of three years each. Each Councilor shall be nominated by the district which he is to serve, and shall be

elected by the House of Delegates, and no Councilor shall serve for more than one consecutive term. The trustees shall be elected for terms of five years each; all officers shall serve until their successors are elected and installed. (Proposed by Drs. S. P. Cunningham, E. V. DePew and Thomas Dorbandt).

Respectfully submitted,

WINFRED WILSON, Chairman,
J. H. LANDER,
F. W. LAWSON,
GEO. D. LAIN,
F. P. MILLER.

On motion of Dr. Miller, seconded by Dr. Lain, the report was received and the amendments recommended for adoption ordered tabled, subject to call Thursday, May 10, 1923.

Dr. A. W. Acheson of Denison: I am glad to see this Association in trouble, but I want you to understand that this is not the first time it has met up with trouble of this kind. In the session of this Association in 1877, at Galveston, a question was up very similar to this. It was over recognizing hydropathic treatment. Somebody over in Houston had started what the doctors there called a "wash house," and the question came up as to whether the profession could recognize the "wash house" or not. Hollington and Stewart and Cupples fought that thing to a fare-you-well. They kept it up until dinner-time and finally adjourned at dinner, on the ground that Honorable Ashby Smith would be there after dinner, and they would like to have his views on the subject. When they gathered together after dinner, the Honorable Ashby Smith enunciated the doctrine, that not only among doctors, but everybody else, there was a large element that wanted to go to hell its own way. That is what is the matter with the Legislature in Texas today; they believe just that, and the only way we can get around it is to do as has been suggested here, conduct a real campaign of education. I thank you. (Applause).

Dr. J. D. Osborn of Cleburne: I have an idea that that speech of Dr. Russ ought to be put before the general session, and I move that he be requested to repeat it before the General Session of tomorrow.

The motion was seconded by Dr. Horton, put and duly carried.

On motion of Dr. Gilbert, seconded by Dr. Lain, Dr. Scott was requested to also address the General Session Thursday.

On motion, duly seconded, the House adjourned until 10:00 a. m., Thursday, May 10, 1923.

GENERAL SESSION.

The General Session was called to order in the Crystal Ballroom, Texas Hotel, at 4:00 o'clock p. m., by Vice-President Dr. C. P. Yeager.

Dr. Oscar Dowling, Chairman of the Board of Trustees of the American Medical Association, read a paper on "The Work of the American Medical Association."

ADDRESS OF DR. OSCAR DOWLING.

(Published in the Original Articles Section of this number of the JOURNAL).

ADDRESS OF DR I. L. MCGLASSON.

Dr. I. L. McGlasson of San Antonio: Dr. Engman, who was to come on the program ahead of me, was detained at home on account of the serious illness of his father. He regrets very much not being able to keep this appointment, and asked if you would accept his apologies, and believe that he is with you in spirit if not in actuality.

(Published in the Original Articles Section of this number of the JOURNAL).

The Secretary: The House of Delegates requests the General Session to hear Dr. Scott and Dr. Russ on the problem of educating the public on health and medical matters, tomorrow afternoon, in conjunction with that part of the program bearing on that subject, a paper by Dr. Thorning. Together these discussions will make a most elucidating exposition of the whole subject.

I have to inform you that the situation at Austin in regard to the Chiropractic bill is critical. Our friends in the Legislature are growing restive that we are not there. They do not comprehend the importance of our Annual Session to us. They do not understand that public health legislation is merely a part of the work that we have to do. If we desire to save the situation there, it is up to us to flood the House and Senate with telegrams of encouragement to our friends and pleas to those who are inclined not to support us. Telegrams from there a few hours ago stated that quite a few members of the Legislature who voted for the amendments to the Medical Practice Act will turn around in harness, as Dr. Russ says, and will now vote for the chiropractic bill, a most unthinkable thing to one who really believes in the reforms carried by the amendments to the Medical Practice Act recently enacted into law. There should be, of course, numerous doctors there now. Innumerable, almost, of the opponents to legitimate, scientific, standardized medicine are there. We cannot, manifestly, be there; the expedient, then, is to send telegrams. This telegram has just come:

"Chiros ask for composite board to issue limited licenses until they can qualify for examination before State Board. Proposition demands serious consideration."

The telegram is signed by a member of the Board of Medical Examiners who is in Austin, on the ground. He knows what he is talking about. The affairs of these pleaders for a sub-standard medical license are in the hands of past masters at political manipulation and legislative expediency, and you need not worry for a minute but they will cover the whole ground. There are some encouraging aspects to the situation which we will not discuss now.

There being no further business, the General Session will recess until 9:30 p. m., when the President's Address will be heard, at the Majestic Theater.

GENERAL SESSION.

The General Session was reconvened in the Majestic Theater, 9:30 p. m., for the purpose of hearing the President's address.

Dr. L. A. Suggs of Fort Worth: This is the President's night. The procedure is an innovation, in that the President usually delivers his Annual Address at the opening General Session. Our present President preferred to speak at this time. It is his night, and his right. Anything that he wants goes. He has been a most efficient President, one of the best we have ever had. During his administration we have seen the completion of our Medical Practice Act, making the best law of its kind in the United States, or anywhere in any country. This law was started in 1907, and brought to fruition through the arduous effort of our President and his associates. He has been valiant; he has given one year's good, hard work, if he never does another thing. It is with a great deal of pleasure that I introduce to you the President of the State Medical Association of Texas, Dr. Joe Becton. (Applause).

President Becton: It is with a degree of embarrassment, after that eulogy that I did not deserve, that I address you. But friends, this is the happiest night of my life, I believe—along some lines. (Laughter). Now, don't laugh, I don't want to be funny. I had to correct that statement.

Dr. Taylor, stand up, please. (Dr. Taylor arose.) Friends, I want to show you the best Secretary in the United States. (Applause). Now, I am going to show you who aren't doctors how this Association regards Dr. Taylor. He can look less and do more than any human I ever saw. (Laughter). If it hadn't been for him I would have resigned long ago. The President amounts to little as compared with the Secretary. Dr. Taylor, in the name of the medical profession of Texas, I present to you this beautiful watch. We hope that you will wear it with pride and satisfaction. (Applause). In memory, even in after years when your eyes grow dim and your hands become palsied, that watch will shine back and bring to mind those who loved you in the past. (Applause).

Secretary Taylor: I have attended quite a few surprise parties in my life. This is the only one, I believe, that I ever attended that really surprised anybody. I have heroed in three wars, counting the Spanish-American and the Mexican Border Wars, and I have served many organizations in many capacities; in fact, I have spent a large part of my life gathering goat feathers, and this is the first time I have ever been decorated. (Applause). I didn't get any *croix de guerre* or things like that. I don't know why I didn't. I was scared badly enough. (Laughter). Perhaps it was because I was in the hospital when they passed them out—I didn't stop until I got back to the hospital. I don't know where I have been the balance of the time when they were passing around rewards such as this.

As for that, I haven't needed a token of this sort. I have known that my efforts were appreciated. In fact, that is why I have kept at it so long. I really don't understand that I have done a great deal. I am pleased, indeed, that my fellows think that I have; and they could not do any more for me in this life than to make a definite demonstration such as this. I am grateful, pleased and surprised. I thank you. (Applause).

The President: Dr. Scott, please bring Mrs. Taylor to the stage.

Dr. A. C. Scott escorted Mrs. Taylor to the stage, amid applause.

The President: Mrs. Taylor, we didn't forget you. We asked only for a certain sum of money, and your husband's popularity netted us $112.00 too much. I was told to give it to you. (Applause).

The President's Address.

President Becton then presented his Annual Address, which is published in the Original Article Section of this number of the Journal.

There being no further business, adjournment was had.

Third Day, Thursday, May 10, 1923

MINUTES OF THE HOUSE OF DELEGATES.

The House of Delegates was called to order at 10 o'clock a. m., with President Dr. Joe Becton in the chair.

The Secretary called the roll and announced that 62 members were present, which constituted a quorum.

The President: Gentlemen, we will hear report of the Credentials Committee.

Fourth Report, Reference Committee on Credentials.

The Secretary: The Credentials Committee offers a supplemental report in which it is recommended that the following be seated: Panola county, H. A. Ross; McLennan County, J. W. Gidney and H. F. Connelly; Grayson county, M. M. Morrison; Childress-Collingsworth counties, W. N. Wardlaw.

Upon motion duly seconded the Delegates named were seated.

The President: Report of the Reference Committee on Reports of Officers and Committees.

First Report of the Reference Committee on Reports of Officers and Committees.

We beg leave to make the following report:

(1) We recommend the adoption of the President's address as a whole. We especially commend that part relating to the revision of the Constitution and By-Laws, and recommend that a committee on revision be appointed, composed of a representative from each councilor district, and that such representative be not the Councilor. We further recommend that the salary of the Secretary-Editor be raised to $6,000 per year.

(2) We recommend that the report of the Secretary be adopted as read.

(3) We recommend that the report of the Board of Councilors be adopted. We wish especially to commend the postgraduate instruction given by the two medical colleges of the State, and urge that each county society call the attention of its members to the value of this work and urge them to take advantage of the opportunity to improve their individual efficiency. We hope to see this work become a permanent adjunct to medical instruction in this State. We further desire to commend the deans and faculties of these institutions for their enthusiasm and efficient service.

We take note of the recommendation relative to the instruction to be given the public through the county societies, and endorse same; we especially recommend that the Councilors visit more frequently the county societies, that they may not only receive such instructions, but have his influence in keeping actively at work.

(4) We recommend the adoption of the report of the Council on Legislation and Public Instruction as printed, and that the work of the Council be continued along the lines outlined in the report. We recommend the adoption of the four recommendations of the Council; and further, that the Councilors visit and instruct members of the county societies upon such matters as are of interest to the public and how best to meet the opposition of those opposing higher medical standard of medicine in Texas.

(5) We recommend, as a whole the report of the Council on Medical Defense, and urge the continuance of its very efficient work.

(6) We recommend that the report of the Committee on Transportation be adopted in full, and that the committee be thanked and commended for its efficient work.

(7) We commend the report of the Committee on Compensation and Health Insurance, and recommend its adoption.

(8) We recommend that the supplementary report of the Board of Councilors be adopted as read. We further recommend that the county societies be in some manner impressed with the importance of reporting vital statistics.

(9) We commend the report of the Committee on Hospital Standardization and recommend its adoption, and that the work be continued.

C. E. Durham, Chairman.
H. W. Cummings, Secretary,
J. T. Horton,
R. Y. Lacy,
Thos. M. Dorbandt.

Dr. Cummings: Mr. Chairman, if I can have just one word, I would like personally, and I believe I can represent the sentiment of the committee in this respect, to emphasize a little more the question of reporting vital statistics. The medical profession of Texas stands sponsor for the vital statistics law that is now upon our statute books. We are constantly going to the public and legislative bodies of the State asking for medical legislation, to raise the standards of medicine and make more efficient public health laws in Texas. It is with some humiliation that we admit that the doctors of Texas are failing to carry out a law they are responsible for. It is rather a sorry thing to say that intelligent medical men, who represent the brains of the medical profession of Texas, will place a law on the statute books and then openly and persistently and carelessly violate it. We are held in contempt of law, and the fact ought to be impressed upon county societies. We place the burden of reporting deaths upon the undertaker, and we are glad to say that they are coming up pretty well with their obligations, but if I am properly informed, the doctors are delinquent in the enforcement of this law. We are supposed to know the needs and the advantage and the importance of vital statistics; then let us at least do our part towards getting that benefit to the public and placing ourselves on record as being law-abiding men.

The President: Gentlemen, you have heard the report of the committee, what is your pleasure?

Upon motion of Dr. J. S. Turner, seconded by Dr. C. M. Rosser, the report of the committee was declared adopted.

The President: The Reference Committee on Resolutions and Memorials.

First Report of the Reference Committee on Resolutions and Memorials.

We have had referred to us the following resolution, introduced by Dr. A. P. Howard, the adoption of which we recommend:

RESOLUTION ON STATE MEDICINE

Whereas, the American Medical Association at the St. Louis Session, last year, specifically defined "State Medicine," as follows:

"The American Medical Association hereby declares its opposition to all forms of 'state medicine,' because of the ultimate harm that would come thereby to the public weal through such form of medical practice.

" 'State medicine' is hereby defined for the purpose of this resolution, to be any form of medical treatment provided, conducted, controlled or subsidized, by the federal or any state government or municipality, excepting such service as is provided by the Army, Navy or Public Health Service, and that which is necessary for the control of communicable diseases, the treatment of mental disease, the treatment of the indigent sick, and such other services as may be approved by and administered under the direction of or by a local county medical society, and are not disapproved by the state medical society of which it is a component part."

Therefore, be it

Resolved, that this Association go on record as endorsing and adopting said definition of state medicine.

We have had under our consideration another resolution which has to do with the custom of the Veterans' Bureau of giving training in the practice of chiropractic. It is exceedingly condemnatory of that custom. Since this resolution was introduced yesterday, a letter has been received which somewhat modifies the circumstances. I deem it wise to read this portion of the letter referred to:

"The fact that the Director of the Veterans' Bureau has taken steps to curtail chiropractic training makes it inexpedient, probably, to adopt condemnatory resolutions. His action suggests, however, the wisdom of adopting resolutions commending him for what he has done, pointing out that it is in the interest of the Veterans as well as of the public, and urging him to carry the matter to the limit, absolutely discontinuing all chiropractic training."

The proposer of this resolution was Dr. Bledsoe, and your committee recommends the adoption of the resolution, with such modifications as Dr. Bledsoe may make in the light of this letter. The original resolution follows:

RESOLUTION ON VOCATIONAL TRAINING IN CHIROPRACTIC.

Whereas, the American Medical Association has by resolution called upon the Veterans Bureau to cease giving vocational training in chiropractic to disabled veterans, and

Whereas, it is our understanding that the said Veterans Bureau has not discontinued this practice, seemingly being content with an amended rule to the effect that vocational training in chiropractic shall be given only to those veterans who will sign a statement that they do not intend to practice chiropractic in states holding such practice illegal, and

Whereas, this would seem not only a poorly devised but a thoroughly inadequate measure for preventing illegal practices, in addition to which it is recognition of a dangerous, non-scientific and foolish theory of therapy, now, therefore, be it

Resolved, that the State Medical Association of Texas, in regular annual session assembled, go on record as joining the American Medical Association in insisting that the Federal Government cease extending to its wards encouragement to violate the laws of many of our states, most notably Texas, and to refrain from giving this endorsement to a theory in direct contravention to the whole foundation of the health, upon which has been built the United States Public Health Service, and the several other services more directly pertaining to the treatment of disease, and be it further

Resolved, that copies of these resolutions be forwarded the Chief of the Veterans Bureau at Washington, the Senators and Representatives in Congress, from Texas, and to the American Medical Association, and that they be spread upon the minutes of this session.

Respectfully submitted,

A. A. Ross, Chairman.
J. H. McCracken,
A. W. Acheson,
A. C. DeLong,
R. D. Wilson.

The President: Gentlemen, you have heard the report of the committee, what is your pleasure?

Upon motion of Dr. Durham, seconded by Dr. Reynolds, the report was declared adopted.

The President: Reference Committee on Scientific Work.

Second Report of the Reference Committee on Scientific Work.

Your committee, to whom was referred the report of the Cancer Committee, wishes to commend and approve the very excellent and exhaustive publicity propaganda and educational work of this committee during the year, and to congratulate the Association on the practical good in the conservation of human life this work has already accomplished. We recommend the continuation of this work.

We wish to commend and approve the very excellent report of Dr. Wm. Keiller, Delegate to the Association of American Medical Colleges, and recommend that the report be given wide publicity and that Dr. Keiller be extended the thanks of the Association for his faithful work.

Respectfully submitted,

J. M. Frazier, Chairman,
J. D. Osborn,
F. Paschal,
C. R. Hannah,
A. D. Nelson.

The President: You have heard the report.

Upon motion of Dr. White, seconded by Dr. Torbett, the report was adopted.

Report of Committee on Memorial Exercises.

Dr. Dorbandt: Mr. President, I haven't made my final report for the Committee on Memorial Exercises I just wish to state that we have had probably the largest number of deaths of medical men during the year ending now than has ever been the case before. There were forty-two members of the State Medical Association and forty-four non-members. The committee had quite a bit of difficulty in getting detailed accounts of the deaths, and without saying anything

in a spirit of criticism, it is a sad commentary that one often does not get any reply or response to letters on this subject addressed to county society secretaries. If any have been overlooked is not the fault of the State Secretary, nor the fault of this committee.

I want to thank Dr. Will S. Horn of Fort Worth, a member of the committee, for his hearty co-operation and assistance. He made all local arrangements, including the program.

The President: Gentlemen, you have heard the report, what is your pleasure?

The Secretary: I would like to make some privileged remarks, somewhat supplemental of that report. It will be recalled by those of you who were at the meeting that numerous additions were made to the list. The list will be thoroughly revised in the light of these suggestions, and the revised list published in the JOURNAL. I thank the chairman for his remarks. It is extremely difficult, sometimes, to get data relating to deceased doctors. We have sometimes written as many as a dozen letters before getting the most meager results, and I have written from my own memory and recollection, such obituary notices as has appeared in the JOURNAL on more than one occasion.

The President: The report will be referred to the Reference Committee on Reports of Officers and Committees.

The Secretary: Mr. President, there are some by-laws that were ordered tabled yesterday.

After some discussion and on motion of Dr. Miller, seconded by Dr. White, Section 6, Chapter XIV, of the By-Laws was amended to read as follows:

AMENDMENT TO CHAPTER XIV BY-LAWS.

"Section 6. When a member in good standing in a component county society in this State, shall move into another county in this State, he shall, within twelve months from the date of location in such county, transfer his membership, without additional cost, to the county society in the county of which he is resident; and it shall be obligatory upon the part of the society in the county to which he removes to accept him as a member in good standing. If he comes from another state, where he is a member in good standing, the same rule shall apply, except that he will be compelled to pay that portion of county dues which are remitted to the State Association.

After considerable discussion, and on motion of Dr. Cummings, seconded by Dr. Durham, Section 4, Chapter X of the By-Laws, was amended to read as follows:

AMENDMENT TO SECTION 4, CHAPTER X, BY-LAWS.

"Section 4. All addresses and papers coming before the Scientific Sections shall be presented in typewritten manuscript. All papers so presented by members of the Association must have first been read before the county society, or where the county society is not available, the district societies of which the authors are members, and the secretaries of such societies shall certify to the Section Secretary that such papers have been read in toto."

After some discussion, on motion of Dr. Miller, seconded by Dr. Underwood, Section 7, Chapter IX of the By-Laws, was revised to read as follows:

"Section 7. The Council on Legislation and Public Instruction shall consist of nine members, and the President and Secretary of the State Association and Chairman of the Board of Councilors, as ex-officio members. For the purpose of dividing the labor of the Council, five shall be responsible for legislative and seven for educational work. Members shall be appointed for terms of three years each, three members to be named by each retiring President; but in the first instance nine shall be named, and they shall draw lots for terms of one, two and three years, respectively."

The motion was put and duly carried.

SECOND REPORT OF REFERENCE COMMITTEE ON REPORTS OF OFFICERS AND COMMITTEES

Dr. Durham: For the committee I would like to commend the memorial exercises and recommend that a vote of thanks be extended to all who participated.

On motion of Dr. McMullen, seconded by Dr. McLeod, the report was adopted.

Dr. A. A. Ross of Lockhart: I move that we go into the election of officers.

Dr. C. E. Durham of Hico: Second the motion.

The motion was put and duly carried.

ELECTION OF OFFICERS.

The President: I will ask Drs. Ross, Beverly, Gilbert and Miller, to act as tellers. Nominations for President are now in order.

Dr. M. L. Graves of Galveston: The State Medical Association of Texas always is fortunate in being able to present members who are in every way worthy to fill this its highest official position, who will bring to the discharge of their duty not only a thorough knowledge of the workings of organized medicine, but a high sense of duty and loyalty. I come this morning to present the name of one of these. You will recognize that for devotion to its highest interest he has no superior in this organization. In 1902, prior to the reorganization of the American Medical Association, he served as Secretary of the Jefferson County Medical Society. After the reorganization in 1903, he became an active and enthusiastic worker in organized medicine. In 1912 he became President of the Jefferson County Medical Society; in 1914 he was chosen President of the South Texas District Association. In 1915, with the same degree of confidence and with a vision which is not given to all of its members, he saw the importance of the Workmen's Compensation Act, and in the South Texas District Society offered a resolution providing for the appointment of a committee to go to Austin and assist in framing and interpreting this important piece of legislation. He was appointed chairman and went to Austin at his own expense, as ever in the interest of organized medicine, and gave to the consideration of that subject an enlightened and comprehensive vision, which has resulted in placing upon the statute books of Texas perhaps the best workmen's compensation law now in existence. His work has been regarded as so efficient in this particular that he has been invited by the states of Tennessee and Louisiana to come to them and help to frame and interpret their legislation upon this great subject.

Not confined to activities in his own county and district associations, he became a member of the Board of Councilors of the State Medical Association of Texas seven years ago, acting subsequently as its secretary, and for the past four years as its efficient chairman, dealing with the numerous and important problems which are continually confronting this Council, and he has given to this work that enthusiastic interest and efficient service which has made this Council efficient in organized medicine. In his community he is a citizen of great civic virtue and influence. He has been accorded all the honors of his city and county, and has given in courage and devotion to civic righteousness and duty, second to none. If you will elect this man to the presidency of the State Medical Association, you will bring an experience from the county society up through all the important organizations which has influenced in

moulding and developing organized medicine. He will bring enthusiasm, high idealism, loyalty and an efficiency. I take great pleasure in presenting for president-elect, Dr. M. F. Bledsoe of Port Arthur. (Applause.)

Dr. W. E. Tatum: I take pleasure in seconding the nomination of Dr. Bledsoe.

Dr. A. B. Small of Dallas: I would not gainsay a word that Dr. Graves has just said in eulogy of the gentleman whom he put in nomination. It is all true and more. Added to that is my strong friendship for the man whom he has nominated. When I became a member of the Council, and a co-worker with Dr. Bledsoe, six years ago, there was apparently no difficulty with organized medicine in Texas, except local troubles. I believe there isn't a man within the hearing of my voice today who does not believe that there is facing us a foe which is far more formidable than anything that we have faced since the beginning of organized medicine in this State. There is a spirit of disrespect for law throughout the world. We, as an organization, come in for our part of this great shadow. If we cannot uphold the law governing the practice of medicine, why should all of this interest be taken and what will eventually become of it? If we are to have a multiplicity of medical boards, with our legislators, our lawyers, our bankers, telling us that they would as soon have chiropractors for their family physicians as the best trained physicians in Texas, what is going to become of our organization? Against such men as Dr. Graves and Holman Taylor and A. C. Scott, Turner, Joe Becton—the room is full of them, who have devoted their entire manhood to organized medicine, there is a group, a band not worthy the name of "cult," which threatens our very organization *today*. It is not the thing that he has been in the past that should measure a man's adaptability to this place today, but what is needed at the present time.

The first of last December there was a called meeting in Dallas of the Council on Legislation and Public Instruction, for the purpose of considering this very question. It was decided that there should be inaugurated a publicity campaign, and when that was decided upon, it was further decided, without a dissenting voice, that there was just one man in the State of Texas to head that campaign, just one man particularly qualified as a leader, who could interpret the situation to the people, who could reach the people in the most effective manner. Now, gentlemen, this man has carried on this campaign, has done more in educating the public, teaching the public just who Mr. Chiropractor is, and just what his motive is—I am going to make a pretty strong assertion—than any other man connected with the State Medical Association of Texas. (Applause.) The one question today is just what the termination of this campaign is going to be? If your chiropractic neighbor gets a board, how long will it be before a few barbers and a few blacksmiths and a few mechanics around the automobile shops, will decide that they cannot come up to the standard, and rush off and get a board of their own?

What ever the report may be from the Legislature, the situation is pretty well in hand, and if the chairman would call for a vote today as to who is the best man to continue this campaign, there would not be a man sitting in front of me who would not stand to his feet and say that it is C. M. Rosser of Dallas. (Applause.) Gentlemen, I present this man not because he is my friend, not because he has done anything for me, not because he and I have not quarreled; I present him simply because I believe, as sincerely as I believe that I love my family, that he is the man par excellence to lead this campaign, as President of the State Medical Association. (Applause.)

Dr. C. R. Hannah of Dallas: I rise to second the nomination of Dr. Rosser. Whenever we become interested in some friend, we like to see him carry on. Sometimes the Dallas County Medical Society is accused of doing things it should not do. We have had an organization of over 300 members for the past year, and we are a unit in this organization. Some of our good friends say that we are not a unit, and that we do not stand for friend Rosser. For the past two years the president in Dallas County Society has been elected unanimously. This past year, Dr. Rosser was nominated by the Chairman of the St. Paul Sanitarium Faculty, and he was supported by the entire faculty, showing that he has the support of his home county.

I was interested day before yesterday in what Dr. Moore said of the great work that Dr. Rosser had done before the Legislature. I wonder if there is any man before me here who has the nerve and the courage to stand before a Senate Committee and tell some man that he should be behind the bars rather than legislating for our country. We heard what Dr. Russ said, that this is a day of publicity; that the man who has gone forth and got his name in the paper because he is trying to teach the lay public something relative to our work, has been condemned many times. Dr. Rosser has been ten or fifteen years ahead of this organization, trying to teach this doctrine, and teaching it alone. Are we going to take the laurels from the man who has been out on the firing line and put them on a man who may have them at some future time?

The man who has handled our case in the past few months comes now. Are we going to unharness him —send him out without this Association behind him? That is the question that confronts us this morning. Whenever we take our ammunition and our guns from that man he cannot do what he has been doing in the past. I just wonder why Becton and Scott and Taylor wanted Rosser to head this publicity committee? I wonder whether it was a favor, or whether it was because he could do something no other man in the State could do? We will certainly make a mistake this morning if we don't elect Rosser to go ahead with this campaign. He will have the fire; he will have the ammunition; he will have the courage. This is not a time of triumph; it is a day of dedication. Let us say to Rosser, "Come and carry our banner to the front." I second his nomination. (Applause.)

Dr. H. W. Cummings of Hearne: Some fifteen years ago this Association honored me with its highest gift, without my seeking; why, I do not know. I tried for twelve months to give the best energies that I had to the advancement of the cause of organized medicine in Texas. I retired from office and have tried not to be active in the political side of the Association work, feeling that I had had the honor and ought not now undertake to place the mantle upon other shoulders. But I cannot fail to make use of this opportunity to second the nomination that has just been made. We may gather in our associations and talk day after day about the problems that face us. I happen to be among those who have given some attention to the question of public health legislation. I spent ninety days of my time when I was president, in Austin, to get a Board of Health for Texas, and a tuberculosis sanatorium.

My friend, Russ, used to refer to me as "the long white-haired politician of the State Medical Association. Gentlemen, politics has taken away those long gray hairs, as you see. (Laughter.) I look upon the word "politics" different from the average man. The public knows us only as doctors. I want to say to you that there never has been a Senator from the Twelfth Senatorial District that I know anything about that went to Austin and voted

against any legislation this organization advocated. (Applause.) One of the reasons why, is that Dr. Cummings has attended every Democratic convention that has been held in Robertson county during the past thirty-one years. When a man desires to run for office in that Senatorial district, I don't have to look for him; he comes to my office, not because I have any more power than any other citizen in my community, but because I take an active interest in all public and civic affairs, and I make myself felt and known. And I don't have to sit down and write them and wire them and work with them and fool with them when they go to Austin. They are informed of these matters before they go, and as intelligent men they can cast their votes for organized medicine and protection of public health of this State. There are men who are qualified for this character of work and men who are just as good physicians as others who are not qualified. We stand today in need of men at the head of the Medical Association who can present the viewpoint of the medical profession and the needs of the public health of this State, to the laity. There has been a tendency on the part of the medical profession as individuals to shrink from publicity, and that is the reason that our 3,600 members have less influence in our legislative bodies than a few chiropractors located in the cities. We do not present ourselves to the public in the right way. We do not identify ourselves with the civic and community questions that come up among our people.

You have changed your by-laws that you may reach the public of this State, reach those whom we need to reach, and educate them along the lines they ought to be educated along. For that reason we need men to head the organization at the present time who can push this question, and I don't know of anyone better qualified than C. M. Rosser. (Applause.) I am making this nomination voluntarily. I haven't talked to more than three men of this organization about the presidency. I had no idea whose names would be presented at this time. And I want to say before I sit down, that there is no man in the Association whom I value more than Dr. Bledsoe. There is nothing that you can say against him; there is all you can say for him. This is the first time that I have ever voted for Dr. Rosser for any office. It is not because of personal friendship. I have had nothing against him. I have always had another friend whom I preferred. I believe the time has come when those who have rendered service should be given their just reward.

Dr. R. Y. Lacy of Pittsburg: I wish also to second the nomination of Dr. C. M. Rosser, as president of this Association.

Dr. A. P. Howard of Houston: If I do not convince you that Dr. Bledsoe has served this organization with the same zeal, in the Legislature that Dr. Rosser has, it is because of my inability to talk. When the Industrial Accident Bill came up, I happened to be appointed on a committee with Dr. Bledsoe to look after it, and week after week I saw him leave his work and stay in Austin to help perfect that law. He mixed with men and spent his money fighting for each little point as they came up, to save what belonged to the doctor. Had he not been there and had he not been so able and so capable and stood so many things that I would not—that I chafed under and got up and went back home, only to be called back to help again, this State would have been suffering under the same sort of laws that states like Tennessee and Louisiana and West Virginia are suffering under, in which the doctors are paid such paltry sums that industrial work is almost charity. It may have been a selfish bill and not a great public health measure, that he was fighting for, but it took just as much energy, just as much ingenuity and just as much personal sacrifice as any.

On all other legislative matters Dr. Bledsoe has been on hand, doing his duty; not carrying the flag in front, but doing the real fighting in the trenches. Dr. Bledsoe has many friends in Austin that we need and need badly. We don't want to forget that. (Applause.)

Dr. S. E. Thompson of Kerrville: Into this conflict I had no intention of going. For both men I have the most exalted respect and the kindest possible feeling, but there comes a time in every man's life when obligation can no longer be put away. There comes a time when gratitude forces us to take the position that we feel is right, and when a man has not only been our servant but our slave; when he has spent his time, his money, his property and his life, in our service, there comes a time when common gratitude will force us to offer to discharge that obligation.

The only criticism that I ever heard of this man is that he was just about twenty-five years ahead of us. Many years ago he used to endeavor to educate the public. He made an effort to get them aroused on questions of public health and correct living, and those who were jealous of him said that he was playing to the gallery and doing it to advertise. He was doing then what every one of us is expected to do now. When a man gives his life, his time, his money and his brain to the betterment and the promotion of the interest of his country, he deserves recognition; and it shows the right spirit when he worked for it. He who helps his country live helps all things live, and all things living bless him. But he who lets his country die lets all things die, and all things dying curse him. I have got to support Dr. Rosser. (Applause.)

Dr. J. W. Torbett of Marlin: I don't want to take up any more time, except to say that Dr. Bledsoe has been one of the best councilors we have ever had, and at this present time I think he ought to remain as a councilor, to help us in this great warfare. For that reason I want to second the nomination of Dr. Rosser, that old warhorse, whose eloquence, whose courage, whose past experience fully fit him to meet any one of the foes, be he preacher, politician or lawyer, that we have to battle with in the coming days. I gladly second the nomination of Dr. Rosser.

The President: If there are no further nominations, the nominations are closed. The tellers will distribute the ballot.

The ballot was thereupon spread, and after the count, Dr. Miller, for the tellers, announced that Dr. Bledsoe had received forty-five votes and Dr. Rosser forty-four votes.

Dr. A. B. Small of Dallas: I move that this vote be made unanimous, in favor of Dr. Bledsoe, and in doing so I wish to suggest that our man leaves here with the seniority. We modestly put you on notice. (Applause.)

Dr. Rosser: I concur in the motion, with this explanation. I did not welcome a contest between men who are shoulder to shoulder striving to serve the medical profession and the people. I permitted the use of my name believing it to be my duty. I have never sought preferment, except as it seemed to me it would bring larger opportunities for service. No one will tell you now that I have suggested that I ought to be President of the State Medical Association. I have uniformly said, when approached, "Let the Association do as the Association cares to do; if it places responsibilities upon me, while I do not seek them, I have never yet avoided them." If this action leaves me in a less able attitude in the effort

to popularize the law which the Governor signed—and without popularization among the people it is a love's labor lost; if I shall be less effective without having the weight of your preferment, it will not be a fault of mine and I shall not complain. If I am crippled, I will give you all the service that a crippled man can. (Applause.)

The President: While the motion is out of order, I am going to permit it. You have heard the motion, that the Secretary be instructed to cast the ballot of this organization for Dr. Bledsoe.

ELECTION OF PRESIDENT-ELECT.

The motion was thereupon put and duly carried, and Dr. M. F. Bledsoe of Port Arthur, was declared elected President-Elect, unanimously.

The President: We have to elect three vice-presidents.

Dr. A. A. Ross of Lockhart: I want to place in nomination Dr. J. W. Torbett or Marlin, who is at present the President of the Central Texas District Association.

Dr. H. F. Connelly of Waco: Mr Chairman, I rise to second the nomination of Dr. Torbett.

Dr. John S. Turner of Dallas: Mr. Chairman, I also second the nomination of Dr. Torbett. Everybody knows him.

Dr. Joe Gilbert of Austin: Mr. Chairman, I nominate Dr. A. A. Ross of Lockhart, for Vice-President.

Dr. A. F. Beverly of Austin: I second that nomination.

Dr. J. K. Smith of Texarkana: I nominate Dr. J. N. White of Bowie County.

Dr. M. L. Graves of Galveston: I second the nomination.

Dr. C. E. Durham of Hico: I move that the Secretary be instructed to cast the unanimous vote of this House for the three nominees.

Dr. A. E. Sweatland: I second the motion.

The President: The motion is out of order, but the Chair is going to permit it.

ELECTION OF VICE-PRESIDENTS.

The motion was put and unanimously carried, and Doctors J. W. Torbett of Marlin, A. A. Ross of Lockhart, and J. N. White of Texarkana, were declared elected Vice-Presidents.

The President: The next is one Trustee, to succeed Dr. J. S. Turner, whose term has expired.

Dr. J. W. Torbett of Marlin: Mr. President, I rise to put in nomination Dr. J. S. Turner to succeed himself as Trustee. He is acquainted with the job. He has been on it for years; we don't need to change. He is a business man, and blessed with good, common sense.

Dr. F. P. Miller of El Paso: I second the nomination.

Dr. W. N. Wardlaw: Mr. President, I too, would like to see the affairs of the Association in good hands, and I nominate our retiring President, Dr. Becton, for Trustee.

Dr. F. U. Painter of Corpus Christi: I second the nomination of Joe Becton. (Laughter and applause).

Dr. Landers: I also want to second the nomination of Joe Becton. I think he should remain in harness a while longer.

Vice-President Dr. C. P. Yeager thereupon assumed the chair. There being no more nominations, the ballot was spread.

ELECTION OF TRUSTEE.

The vote being, Dr. John S. Turner 52, and Dr. Joe Becton 22, Dr. Turner declared elected Trustee, to succeed himself.

The President resumed the chair, and called for nominations to fill vacancies occurring on the Board of Councilors.

ELECTION OF COUNCILORS.

Dr. R. S. Killough of Amarillo nominated Dr. P. C. Coleman of Colorado, to succeed himself as Councilor, Second District. The nomination was seconded by Dr. C. M. Rosser of Dallas and Dr. Coleman was unanimously elected.

Dr. A. F. Beverly of Austin nominated Dr. Joe Gilbert of Austin, for the position of Councilor of the Seventh District, to succeed himself. The nomination was seconded by Dr. A. A. Ross of Lockhart and Dr. Gilbert was unanimously elected to succeed himself as Councilor of the Seventh District.

On nomination by Dr. M. L. Graves of Galveston, seconded by Dr. E. V. Depew of San Antonio, Dr. O. S. McMullen of Victoria, was elected to succeed himself as Councilor of the Eighth District.

On nomination by Dr. C. M. Covington, seconded by Dr. A. P. Howard, Dr. W. B. Thorning of Houston was elected to succeed himself as Councilor for the Ninth District.

On nomination by Dr. M. L. Graves of Galveston, seconded by Dr. J. H. McCracken of Mineral Wells, Dr. D. S. Wier of Beaumont, was unanimously elected to succeed Dr. M. F. Bledsoe of Port Arthur, as Councilor of the Tenth District.

The President: There are three delegates to the American Medical Association, whose terms of office expire at this time. Nominations are in order to fill these places.

ELECTION OF DELEGATES AND ALTERNATE DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

Dr. Thomas Dorbandt of San Antonio, nominated Dr. Holman Taylor to succeed himself as Delegate, Place No. 3. The nomination was seconded by Dr. W. B. Russ of San Antonio, and Dr. Taylor was unanimously elected.

Dr. H. F. Connally of Waco, nominated Dr. S. P. Rice of Marlin, to succeed Dr. M. F. Bledsoe as Delegate, Place No. 4. The nomination was seconded by Dr. John S. Turner of Dallas, and Dr. Rice was unanimously elected.

Dr. S. E. Thompson of Kerrville, nominated Dr. Joe Becton of Greenville, to succeed Dr. R. L. Ramey of El Paso, Delegate, Place No. 5, which nomination was seconded by Dr. C. E. Durham of Hico.

Vice-President Dr. C. P. Yeager assumed the chair.

On motion, the nominations were declared closed and Dr. Becton was unanimously elected Delegate to the American Medical Association, Place No. 5.

President Dr. Becton reassumed the chair.

Dr. F. P. Miller of El Paso, nominated Dr. Marvin L. Graves of Galveston, Alternate Delegate, Place No. 3, to succeed Dr. C. S. Venable. The nomination was seconded by Dr. J. H. Landers of Victoria. Nominations were declared closed and Dr. Graves unanimously elected.

Dr. John S. Turner of Dallas, placed in nomination Dr. H. F. Connally of Waco, as Alternate Delegate Place No. 4, to succeed Dr. W. Burton Thorning of Houston. The nomination was seconded by Dr. H W. Cummings of Hearne, following which nominations were closed and Dr. Connally declared unanimously elected.

Dr. J. H. McCracken of Mineral Wells, nominated Dr. G. B. Foscue of Waco, to succeed himself as Alternate Delegate, Place No. 5, which nomination was seconded by Dr. A. A. Ross of Lockhart. Nominations were closed and Dr. Foscue was declared unanimously elected.

The President, declaring that it would be a crime to lose the services of Dr. Jones as member of the Council on Medical Defense, nominated Dr. Jones to succeed himself.

ELECTION OF MEMBER COUNCIL ON MEDICAL DEFENSE.

On motion of Dr. A. A. Ross, seconded by Dr. John S. Turner, the nomination was given the unanimous approval of the House of Delegates, by rising vote, and Dr. Jones was declared elected to succeed himself as member of the Council on Medical Defense.

ELECTION OF MEMBERS COUNCIL ON LEGISLATION AND PUBLIC INSTRUCTION.

The President nominated Dr. W. B. Russ of San Antonio, to fill the unexpired term of Dr. A. C. Scott of Temple, as a member of the Council on Legislation and Public Instruction.

On motion of Dr. A. F. Beverly of Austin, seconded by Dr. A. A. Ross of Lockhart, the nominee, Dr. W. B. Russ, was elected to fill the unexpired term of Dr. Scott, on the Council on Legislation and Public Instruction.

The President then nominated Dr. A. F. Beverly of Austin, to succeed himself as a member of the Council on Legislation and Public Instruction, which nomination, upon motion of Dr. Gilbert of Austin, seconded by Dr. Coleman of Colorado, received the unanimous approval of the House, and Dr. Beverly was declared elected.

The Secretary called attention to the recent action of the House of Delegates in adopting a by-law enlarging the Council on Legislation and Public Instruction, and stated that six additional members of the Council must be elected.

On motion of the Secretary, seconded by Dr. A. A. Ross of Lockhart, the election of the remaining members of the Council on Legislation and Public Instruction was deferred until the time of the General Session, and that the House of Delegates recess at the conclusion of its present business, reconvening with the General Session, at 4:00 p. m.

The President: The Chair will consult with Dr. Scott, and together we will select the best men we know of.

SELECTION OF PLACE OF MEETING.

The President: Gentlemen, we come now to the selection of the time and place of the next meeting.

Dr. W. N. Wardlaw of Childress: Mr. President, I ask permission of the floor for one who wants to tell you about the great West. He was born and raised in West Texas. He was in the late war and he came out a Colonel. He now owns the largest hotel between Fort Worth and Denver—Colonel Thompson of Amarillo.

Dr. R. S. Killough of Amarillo, seconded the motion, and the privilege of the floor was extended to Colonel Thompson.

ADDRESS OF COL. E. A. THOMPSON.

Colonel E. A. Thompson of Amarillo: It is with a great deal of timidity that I face this convention of doctors. I have faced doctors on other occasions, when I had nothing to say about it, the last time in France.

Amarillo has done me the honor to permit me to enter her bid for your 1924 convention. You perhaps recall that in 1911 we had the honor of entertaining you—about a thousand of you, and those who came can tell you what kind of a time they had. We spread an old-fashioned barbecue down in the Canyon, and gave you a real Western welcome. In the twelve years that have elapsed, Amarillo has more than trebled her population. Her facilities in every way have perhaps been quadrupled. We have a hotel now, which I won't say much about because I happen to own it; but the hotel facilities are more than adequate to care for a convention twice the size of yours. We entertained on one occasion, 10,500 visitors. Not a one of them failed to get plenty to eat, and—a Sealy mattress to every one of them. We come now banking on Amarillo's reputation, and we realize that our reputation rests on our ability to entertain you in such a way that you will go home with the wish in your heart that you could carry your patients to Amarillo and live there. When you get up on the Cap Rock and get that bracing atmosphere, you will know what I mean. The people of Amarillo are straining their ears listening to what this convention is doing today; even the school children are hoping to be able to welcome you to Amarillo. When you come to Amarillo you will be the whole show. We will have hundreds of automobiles at the station to meet you, driven by the leading citizens of the town. Moreover, we will guarantee you that each visitor, if he will let us know ahead, will have his room assigned to him in advance of his arrival, and will be received with a real Southwestern welcome.

When we had you before, we told you that we would not ask for you for another ten years. We have waited twelve years now, and we again ask that you accept our hospitality. Get out of these swamps and this humid air, come out and see what West Texas is; stick your head up in the atmosphere of West Texas. (Applause.) You will see where life is worth living. We have discovered in Amarillo the biggest gas field in the world. (Laughter and applause.) I went out and got my shot just before I started down here. The United States Zinc Company, that is, the Guggenheim Smelting Company, have just completed a million dollar smelter in Amarillo. We are gaining people by the thousands every month. We have gained, I guess, since the 1920 census, five or six thousand people. Our deposits in the banks are mounting fast, and they have discovered oil near us. The Texas Company has leased 200,000 acres, the Magnolia Petroleum Company, the Gulf Producing Company, the T. P. Coal Company, and producers and refiners have come in recently and bought big acreage. I am not trying to sell you any leases, but if you want to supplement your fortunes a bit, get some leases out in that country, and then come out next spring and see what you have.

On behalf of the citizens of Amarillo, I want to extend to you a most earnest invitation to come to Amarillo in 1924. I will be there to see that you get plenty to eat and good place to sleep. We will give you the finest barbecue that was ever prepared, with that sauce they call "sonofagun," and it is wonderful. We will send you back glad that you took the three days off. There are four railroads that run into Amarillo. You can come to us from seven different directions.

Dr. R. S. Killough of Amarillo: I want to second the nomination of Amarillo, and I guarantee everything Col. Thompson says.

Dr. Thomas Dorbandt of San Antonio: I didn't bring any lawyer along to present the claims of San Antonio, but I want to extend a hearty invitation to the Association to meet next year in the City of San Antonio, the place where the foundation for the history of Texas was laid. We haven't much oil or gas, but we have the wettest town in the State of Texas. (Applause.) As a matter of fact, our water rights are nearly 300 years old, and come from the King of Spain. We have almost completed, or are now completing, the Scottish Rites Cathedral, at a cost of two and a half million dollars. We have some of the finest hotels—bunches of them, that would scare the boys from Amarillo to death. (Laughter.)

We could put a half dozen of their hotels in the lobbies of the St. Anthony, the Gunter and two or three more that are nearly complete now. And for fresh air and things like that, we want you to come down and walk on beds of violets, inhale the fragrance of roses, sit under the palms and drink tequilla. We extend to you a hearty welcome to the metropolis of San Antonio, the biggest city in the big old State of Texas, where we raise boy babies, big bellied calves and hell. (Laughter and applause.)

On motion of Dr. Cummings, seconded by Dr. J. S. Turner, the privilege of the floor was granted Dr. J. H. Eastland of Mineral Wells.

Dr. Eastland: I have listened with a great deal of pleasure to the invitations of the gentlemen preceding me. It is with a great deal of pleasure that I attended the meeting at Amarillo some years ago, and if it is the pleasure of this House to go to Amarillo again, I shall join in and enjoy the festivities. If it is the pleasure of the House to go to San Antonio, I will go to San Antonio. Twenty years ago day before yesterday, I joined the State Medical Association in San Antonio.

I represent the chamber of commerce and the city of Mineral Wells, as well as the doctors there. We have no flights of oratory, no powers of persuasion. We did have a gas field, but our gas is subsiding. We did have an oil field, and it mighty nigh ruined us. (Laughter.) Dr. Dorbandt claims that he has the wettest town in the country. Gentlemen, he may have a wet town, but ours is "wetter." We drink and bathe and bathe and drink. Those of you who do not desire to go to Amarillo, or to San Antonio, come to Mineral Wells, a real health resort. It belongs to you, and to the people of the South. It is time that this health resort, and the other health resorts, as for that, be recognized by physicians, and we want you to come and see what your patients get when they come to us. We want you to see what a brave effort our doctors have made to maintain medical ethics, and how we have striven to hold down outlaw advertising.

Gentlemen, we ask you to come to Mineral Wells and bathe and drink and be purged. (Applause.)

Dr. S. E. Thompson of Kerrville: As one who lives in the suburbs of San Antonio, I want to second Dr. Dorbandt's motion. I live seventy-five miles north of San Antonio—in the Kerrville addition. It is in a country where the roses always bloom, the jasmines never die and the mocking birds forever sing. There are ample railroad facilities. We can take care of the crowd and never know you are in town. Our hotels, our homes, our hearts and our bootleggers, stand ready to greet. (Laughter.)

Dr. A. F. Beverly of Austin: Those who have been to Austin on legislative matters, may have gone away cussing the Driskill Hotel. I want to read a telegram from Mr. T. B. Baker, who operates the Texas Hotel in Fort Worth, the Munger and the St. Anthony in San Antonio:

"We want the State Medical Association convention for next year, 1924, to be the first convention entertained in Austin's new hotel. It will be their place from basement to roof garden, from bell boy to manager."

We have felt ashamed that we have not been able to invite the convention to Austin for these many years. I want to put you on notice now that we don't expect you to come in 1924, but in 1925 we would like to see you in Austin at the same time our wonderful Legislature meets, and then we can get in our hooks good and proper. It will be in session, probably, at the time of our meeting. We are going to invite you to meet in Austin in 1925. (Applause.)

Dr. Joe Gilbert of Austin: I want to second that invitation. It has been twenty years since the State Medical Association met in Austin. We haven't been able to take care of you. I was instructed by the Chamber of Commerce to invite you for 1924, but I don't feel that we will be ready to entertain you by that time. In 1925 we expect to have you come home once more.

Dr. J. H. McCracken of Mineral Wells: I invite you to Mineral Wells, in the name of the Parker-Palo Pinto County Medical Society. We entertained you once before. Our facilities at that time were limited, but have heard many say that they enjoyed the trip. Now we have paved streets and sidewalks, and a great little city. We have everything you want except tequila. (Applause.) Now, gentlemen, Mineral Wells is a part of Texas. These doctors say I am always trying to boost Mineral Wells. Gentlemen, Mineral Wells is a part of Texas; it is your place, not mine. I happen to live there, that is all. Mineral Wells is a health resort second to none in America, perhaps the world. It is your business, if you don't know it, to find out what Mineral Wells is, so that you may send patients there who will be benefited. People come to Mineral Wells who would do better to stay at home. The doctors at home, or the people at home, don't know what they are going up against. Send a man to Mineral Wells with a crippled kidney, one that cannot eliminate the water, and you had just as well knock him in the head. But if he can carry on his elimination and has a chance to get well, that is different. You should go to Mineral Wells; you should know the class of cases that should be sent there. We are on the Bankhead Highway. We will have it completed through our county before next year. It is only a few hours drive from here to Mineral Wells, by auto. We have good train service. We can give you anything you want, and we would like to have you come to Mineral Wells. (Applause.)

Dr. W. N. Wardlaw of Childress: I want to tell you that Amarillo does not want you because she wants to make you drunk, nor to make your bowels move; we want to give you the best time of your life, and we will, if you will come to Amarillo.

On motion, duly seconded, nominations were closed and the ballot spread.

Dr. W. D. Jones of Dallas: While the ballot is being cast, I move that we extend the privilege of the floor to Mr. Hugo Swan, manager-counsel for the Better Business Bureau of Dallas. His bureau helps to run out quacks and things like that. The motion was seconded by Dr. A. P. Howard, put and duly carried.

Address of Mr. Hugo Swan.

Mr. Hugo Swan of Dallas: I am going to discuss for a few minutes a subject which would take at least half an hour to be told properly, and which, in my opinion, should take at least a half day of your conference. Upon you rests the responsibility of quack and patent medicine advertising. It is up to you to do something to keep quack and patent medicine advertising out of the newspapers. This kind of advertising is today in every newspaper, nearly in Texas, and pretty nearly so all over the United States, and the business is growing. Just the other day I saw a statement that a certain patent medicine had 4,000,000 users in the United States. Another one had 10,000,000, and so it goes, on and on I have had quite a bit of experience in investigating patent medicines. I found in New Orleans a preparation that should have been sold as a floor varnish but was sold as a cure for consumption; I also found testimonials in favor of it.

Newspapers get advertising from these people. It comes in easy, they don't have to go out and get it It comes in a nice form. It means a lot of money If one newspaper refuses it, the other newspaper takes it, and when that newspaper's budget is made up it has forty, fifty or one hundred thousand dol-

lars of patent medicine advertising which the other newspaper doesn't have, and consequently it can do more in the way of exploitation. When you physicians approach the newspapers you go as people who do not advertise. You would take away a hundred thousand dollars, say, and give nothing in return. The newspaper man says, "Well, I use patent medicine advertising; so does everybody else. You are jealous." When the Better Business Bureau goes to them, it goes representing not doctors, but the public. It is a nonprofit-paying organization, representing the professions, financiers and merchants. Hardly a newspaper in the State of Texas, in my opinion, if public opinion were awakened, and the facts presented by an impartial body, would accept crooked advertising.

We recently investigated an automotive product. We had it analyzed by a chemist, and then went to the newspapers and said, "Here, this thing advertises to increase the effectiveness of gasoline 40 per cent, it is made of nothing but lubricating oil and gasoline, and is worthless." Its advertising business was thereafter refused. The same way with a lot of nostrums that should not be in our papers today. If an impartial body would make a chemical analysis of it and present both sides to your newspapers, the newspapers would refuse to advertise them. The Better Business Bureau—there are 40 of them in the country—has the support of the National Association of Advertising Clubs of the World. It is the one impartial body that has contact with the newspapers, with the prosecuting attorneys, with the post office inspectors and with business men in their communities. It awakens public opinion on the ethics of advertising. When you come to consider patent medicine advertising, which is one of your responsibilities, remember the Better Business Bureau.

The Secretary: Mr. President, I move you that the matters just spoken of be left to the Council on Legislation and Public Instruction, for consideration and action.

The motion was seconded, put and carried.

The Secretary: Mr. President, the tellers announce the vote on the next place of meeting as follows: San Antonio 44, Amarillo 11, Mineral Wells 4. San Antonio, having a majority of the votes cast, was declared the next place of meeting.

Upon motion duly made, seconded and carried, a recess was taken until 4:00 o'clock p. m., to meet with the General Session, in the Crystal Ballroom of the Texas Hotel.

Afternoon Session.

The President called the House to order at 4:00 o'clock p. m., in the Crystal Ballroom of the Texas Hotel.

Committee on Revision Constitution and By-Laws.

The President: I want to announce the Committee on Revision of the Constitution and By-Laws. Dr. Scott and I have tried to pick out men whose heart and soul and life are in medicine, to bring to us next year a new Constitution and By-Laws. We have tried to pick them from over the State. We have selected Drs. John T. Moore of Houston, M. F. Bledsoe of Port Arthur, F. P. Miller of El Paso, W. B. Cuss of San Antonio and Winfred Wilson of Memphis, Dr. Taylor, Dr. Scott and your humble servant, will serve by order of the House of Delegates. This is a very important committee and we think that we have selected those who will go into the matter thoroughly.

Dr. Scott, as the incoming President, is to do you the kindness and me the compliment to nominate the remaining members of the Council on Legislation and Public Instruction.

Additional Members Council on Legislation and Public Instruction.

Dr. A. C. Scott: The additional members of the Council on Legislation and Public Instruction are, Drs. Joe Becton of Greenville, W. B. Russ of San Antonio, H. W. Cummings of Hearne, S. E. Thompson of Kerrville, I. C. Chase of Fort Worth and A. A. Ross of Lockhart.

The President: Gentlemen, you have heard the nominations, what is your pleasure?

On motion of Dr. M. L. Graves of Galveston, seconded by Dr. J. T. Horton, the nominations were unanimously approved, and they were all declared duly elected.

The President: Gentlemen, is there any further business?

Dr. A. A. Ross of Lockhart: It is customary, in the closing hours of our annual meetings to express general appreciation of everything. That is often done perfunctorily, but I feel that you will agree with me that we are due Fort Worth a real vote of thanks from many standpoints. I have been asked to introduce the following resolution:

Resolution of Thanks.

"*Be It Resolved*, That the Fifty-Seventh Annual Session of the State Medical Association of Texas extend its sincere thanks to the Woman's Auxiliary of the Tarrant County Medical Society, through its President, Mrs. Lyle Talbot, and General Chairman, Mrs. C. O. Harper, for the wonderful spirit and many courtesies extended visitors and members of this Association; to the women of the City Federation, through their President, Mrs. W. H. Moore, for their valuable assistance; to the Rev. E. M. Waits, president of Texas Christian University, and the Rev. H. E. Stout, president of Texas Woman's College, for the receptions given the ladies of this Association; to the musicians and artists for their generous entertainment; to the Fort Worth Chamber of Commerce; to the Texas Hotel, through its president, Mr. Fenton J. Baker, for courtesies in placing at our disposal every facility of his splendid hotel; to the University Club; to the Press for the liberal use of space for our various activities; to the First Methodist Church and to the loyal citizens, who have again shown true Fort Worth spirit in promoting public welfare and scientific medicine."

Mr. President, I move the adoption of the resolution by rising vote.

The motion was seconded by Dr. H. W. Cummings, and was adopted by a rising vote.

Dr. W. D. Jones of Dallas: Mr. President, a resolution:

Resolved, that the State Medical Association of Texas, in general session, commends the wisdom of its officers and the Legislative Committee in its educational campaign, so ably led by the Chairman, Dr. C. M. Rosser of Dallas. Further, it wishes to thank the chairman and committee and urge continued work in the interest of the public, and pledge the support of the entire medical profession of the State Medical Association of Texas.

I move you, sir, the adoption of that resolution.

Dr. I. C. Chase of Fort Worth: I second the motion.

The motion was thereupon put and duly carried.

The Secretary: Mr. Chairman, I move you, sir, if there is no further business, that the House of Delegates adjourn *sine die*.

Dr. J. G. Horton: I second the motion.

The motion was thereupon put and duly carried, and the House of Delegates adjourned *sine die*.

GENERAL SESSION.

President Dr. Becton called the General Session to order at 4:15 o'clock. p. m., in the Crystal Ballroom of the Texas Hotel.

Dr. W. Burton Thorning of Houston, then presented an address on "Obligations of the Laity to Scientific Medicine."

Address of Dr. W. B. Thorning.

(Published in the Original Articles Section of this number of the Journal.)

Dr. W. P. Coyle of Orange: Mr. President, Dr. Thorning has handled this problem in an effective way. I move that the Secretary be instructed to furnish his address to the lay press, with the endorsement of this Association.

Dr. L. Stahl of Gonzales: I second the motion.

The motion was thereupon put and duly carried.

The Secretary: Mr. President, the House of Delegates directs me to request this General Session to hear Drs. W. B. Russ of San Antonio and A. C. Scott of Temple, on the general subject of educating the public on public health matters. Dr. Russ is not present. Dr. Scott is here.

Address of Dr. A. C. Scott.

Dr. A. C. Scott of Temple: The State Medical Association has a three-fold purpose: First, a scientific; second, humanitarian, and third, material protection of its members. During the twenty-eight years that I have been a member of this organization, I believe I have missed but one annual session, and so far as I remember I have never before taken any active part, and neither have I ever heard anyone else take any active part, in the third purpose. We have, so far as I know, devoted one hundred per cent of our time to the consideration of subjects which were purely scientific and of a humane character.

Your incoming president will not forsake in the least degree these main purposes of the Association. He must, however, call your attention to the fact that we, at least the great majority of us, are making our living while we are taking care of these high purposes. We were not all of us born rich. We must give some consideration to our material interests. It is our duty, among other duties, to provide for our families and for our old age while we can. I am going to ask you to concentrate for a while upon the material side of the practice of medicine.

It is not undignified for us to protect our material interests. We sometimes get so interested in the scientific and humane side of our work that we feel that we are bemeaning ourselves whenever we give any attention to material things. You know, without argument, that self-protection is the first law of man; it is our solemn duty to protect ourselves and our families from unjust assault. We are being assailed through the public press, through various clubs, and, I regret to say, through some of our churches. The vocational training schools of the United States are undermining us, and we are being assailed most cruelly this very day by the State Legislature.

You have heard the warning sounded from Austin at various times during the last two or three months. We don't mean to be alarmists, but if any one of you will go to Austin and spend just a fraction of the time that some of the rest of us have spent there during the last two months, I am sure you will agree with us that something must be done. When men in public places speak of the medical profession as a trust, a common bunch of grafters, and do it just as boldly as if there were truth back of it, it is time to become alarmed. You recall the Galveston flood. The people were notified hours in advance that a hurricane was coming. Some of them took warning and got away, but thousands perished. They did not take the alarm seriously, and did not take it in time. Yesterday morning I attempted to get some assistance which we felt we needed very much, by suggesting that you go and again wire your legislators urging them to defeat efforts at compromise with the chiropractors, who were like wolves howling at our door. One of the best loved men of this Association immediately said, "Hush, sh-sh-sh-sh, don't worry. We have all sorts of assurance from Austin." You know the effect. I dare say that two-thirds of those who had intended wiring didn't do it. Last night the young man who is watching things at Austin, told me the situation was alarming; that the Legislature had practically reversed itself. We won the first battle on the final vote, about ninety to something like eighteen or nineteen. Day before yesterday, on the question of printing the chiro bill, in the House, we were defeated by a vote of eighty-five to twenty-three. Does that look like there is no danger? Battles are often lost by overconfidence, and too much success in the first battle is often disastrous.

We have had our first battle. The second battle is being fought today. We don't yet know what the result will be. A comparatively small number may call up this bill in either House or Senate. If it goes through one, great haste will be made to put it through the other. There are, I suppose, almost as many lobbyists, chiropractors, christian scientists, their friends and their paid employees, in Austin today as there are men and women in this room. For us, so far as I know, there is one employee and two volunteer doctors there today. Our friends are discouraged; they don't know what to do. They don't understand why there are no doctors there, helping to decide these questions. The opposition has a sharp lawyer, paid a tremendous salary, to guide and advise them. They are making a scientific fight. Whenever they propose a compromise, they win some of our friends. Whenever they win one group over with one kind of a compromise, they go further and win another group by another compromise. These compromises look all right to them.

The third battle is going to come off next month, in the second called session of the Legislature. If we win this fight, and the next one, we still need not congratulate ourselves. So many have said to me, "How fortunate we were in winning our fight at Austin." Those people are not whipped. They aren't going to be whipped as long as their money lasts, and there is a chance of getting votes for their cause, and we may as well make up our minds that we have a fight on our hands that won't be finished for at least two years. If we fight well enough and hard enough, we will probably educate the people sufficiently in two years to enable us to win. If we go at it in a slow, easy sort of way, it won't be over for ten years and we will be the under dog all the time. This is not just a fight with the chiropractors. It is a fight against medical impostors of every character and description. There are cancer specialists, antivivisectionists, antivaccinationists, magnetic healers, christian scientists, and I was about to say, the American Advertising Club, which organization is not openly and purposely fighting us, but is indirectly doing so by advertising these various impostors. We can be put to sleep, just like the people were in Ohio, when they adopted the multiple board system up there. The last time I heard from them, they had twenty-six different examining boards. If an applicant cannot get by one of the boards, he goes and devises a new theory or a new method of treatment, and then he can get another examining board. Some of our Texas doctors say, "That is the people's business, not mine. I don't worry about it I have all the business I want." That sort of atti

tude serves as an anesthetic, and the other fellow goes on with his terrible work. The chiropractors used as one of their arguments in trying to get a bill passed in Austin, the argument that there are twenty-six States in the Union which have recognized the wonderful curative qualities of their treatment, and have given them special laws, thereby protecting them and enabling them to elevate their calling. That argument sounds pretty good to some people. Our answer to that should be that Texas intends to protect its people better than some of the other states are doing. Oklahoma and New Mexico, our nearest neighbors, have licensed chiropractors. A man goes to medical school for four years, spends a year in a hospital, and then eight or ten years building up a practice, only to see some fellow who has not spent six months in hard work of any kind, with no education, locate in the same town and double discount him in making money. Why? He has the most powerful club in the world, the public press, at his command, and he uses it every day, and pays cash for it. He knows what a business investment is from his standpoint and he makes it. We went to Austin with instructions to spend a limited amount of money, eighteen hundred dollars, I believe, for printing, telegrams, traveling expenses and other legitimate incidentals, while, we have reason to believe, the opposition spent from ten to twenty times as much.

We have not been thinking in terms of money. We have been devoting our attention, as I have already said, to science and humanity. But that does not remedy the situation. We are near-sighted; our field of vision is too small when it comes to finances. We underestimate the gravity and importance of the task before us. We had a drouth in Bell county that lasted about six months. It looked as though the farmers were all ruined. Finally we got a rain, and it was one of those gully-washers. It lasted four or five hours, and as the clouds cleared away, a farmer passed some of us and said, "Wasn't that a fine rain? Why, that rain was worth fifty dollars to Bell county." (Laughter.) That is about the way we estimate some of our interests when we get to thinking of finances. We haven't yet spent enough money to get ourselves interested. I don't know whether you have had much experience in raising church funds, but if you don't know anything about it, ask some of these Baptists. (Laughter.) They are growing faster, erecting more churches, schools and hospitals than any other denomination, because they are putting their money into it. They began twenty-five years ago and got interested in it. There never was a truer saying, gentlemen, than "Where your treasure is there will your heart be also." We don't buy much interest in the State Medical Association for five dollars, part of which goes back into a fund for protection against damage suits. That is not enough to get us interested in it. If we paid five dollars a week, or month, we would be reading every line of the JOURNAL, and getting a better JOURNAL. I think one of the stingiest things we do is to employ a Secretary and give him from eighteen to twenty hours' work a day to do, and pay him a small clerk salary, and not give him an assistant. He does the work of two men every twenty-four hours. He ought to be paid accordingly. I understand the Board of Trustees has already taken some action in that direction, and I am glad of it. They ought to employ somebody to assist him—and take a lot of this detail work off his hands, and let him attend to the big things, which he is fully qualified to do.

There are approximately six thousand doctors in Texas. One thousand of these are not eligible to membership in the State Association. Another thousand are eligible who don't belong. Probably two hundred and fifty of these could be gotten in easily if we had a better way of going after them. That would give us a total of four thousand actual members. There are a thousand of our members who will make about seven hundred dollars a year. The second thousand will earn a thousand dollars a year; the third thousand two thousand dollars a year, and the fourth thousand we will divide up into four sections. Of the first section, six hundred earn three thousand dollars a year. Two hundred and fifty will earn about four thousand dollars a year; one hundred will earn five thousand, and fifty will earn seven thousand. These figures are approximate, of course, but they are nearly correct. There may be fifty who earn much more than seven thousand, but we are not counting the incomes above seven thousand. Gentlemen, these figures total seven million, three hundred and fifty thousand dollars. Now, just let us consider ourselves a big corporation. There are four thousand stockholders, and altogether we have an income of seven million three hundred and fifty thousand dollars a year. Any business is entitled to earn six per cent. That figure has been established by our government. To produce seven million three hundred and fifty thousand dollars, our capital would have to be over a hundred and twenty-two million dollars. Any business that expects to grow, whether it be a peanut business, a flour mill, or any other kind of a business, is warranted, on good sound business principles, in spending ten per cent of its annual income to keep its business in a good, healthy condition. On that basis we would set aside for this purpose seven hundred and thirty thousand dollars a year. That amount is not necessary, of course. If we set one per cent of it aside, it would give us seventy-three thousand dollars a year.

Our business is to restore health and save life, which fully warrants us in spending money to educate the people. They need education. We could do much good with forty thousand dollars. We would be saving lives and giving an education not secured in our public schools and colleges. This is a huge task. In the first place, we have had at this meeting over a thousand members. Three thousand have stayed at home. Some of those who are at this meeting will know something of this matter, but the majority of our members will not. The most difficult task is to educate the doctor. If we could get the doctors educated and inspired we would not have quite so much trouble educating the public. The most important thing is to teach the people the difference between impostors and the real doctor. We must educate high school pupils, college students and thoughtful people everywhere. The Council on Legislation and Public Instruction should have ample funds at its command. There should be an educational secretary on the job all the time and at least four whole-time lecturers. We should have money for traveling expenses, printing, postage and perhaps newspaper advertising. Dr. Russ, Dr. Rosser, Dr. Bledsoe, Dr. Thorning, and others who have done so much educational work cannot continue to give up both their time and their money. I dare say that if you would call a hundred doctors this afternoon, you would find ninety or ninety-five of them looking for obstetrical cases or some other kind of a case which would prevent them from responding. You cannot get five per cent of the doctors away from home on any business that seems so impersonal as this. We must employ our workers.

If we don't do something of this sort, some of these days we will wake up and find ourselves all dressed up in scientific clothes and nowhere to go. (Laughter.) In every town where there is an impostor practicing, during the course of a year he will get more than ten dollars worth of business from each doctor in town. If he gets one patient from each of them, he will probably make a good deal more than that

out of them, because he seldom lets them off for less than twenty-five or fifty dollars. There is no way for you to calculate your losses in money, to say nothing about your losses in prestige. The people do not trust you like their fathers trusted their family physicians in the old days. (Applause.)

The President: I want to thank all of you for the support and hearty co-operation that you have given me during my term of office. I assure you from the depths of my heart that there never was a man more appreciative than I of your good will and help. I am glad that I can turn this gavel over to one who has earned it, who has done as much for organized medicine as any man who ever lived in Texas, Dr. Scott of Temple. (Applause.)

President Scott: I feel that it would be inappropriate for me to say very much more. I wish to express my appreciation of the honor which has been bestowed upon me. I very deeply appreciate the honor, but I appreciate the opportunity for work more. When I was a small boy I was pretty lazy; it was pretty hard to make me hoe corn, and work in the field, and it was hard to get me to study my lessons. The fact is, I was just a typical, lazy boy. When I got into medicine I woke up, and I have been at work ever since. I rather suspect I have worked about eighteen hours a day, on an average, for the last thirty-five years, and I have enjoyed every minute of it. To this Association, all I can do is to pledge myself to work for it as long as the responsibility is on me, and when I get through with this year's work, I want to make this request in advance, that you don't put me on the shelf. I want you to give me an opportunity to work somewhere else. I am going to propose, in order that there may be some position for me that has not yet been filled, that you create the office of janitor and let me serve in that position. (Laughter and applause.)

The Secretary: We have a janitor, cap and everything.

Dr. C. M. Rosser of Dallas: There are two things evident at this hour. Friends at Austin are giving us good advice, and there is a Governor there who wants to be our friend. There are Senators and Representatives who desire to stand for the people against encroachment of avarice and ignorance, and they are doing so, but they need to know that somebody cares. If you ever tried to transact business over the long-distance telephone which you could easily and expeditiously transact through personal interview, you will understand what I am going to say.

You have heard a splendid description of the situation as it exists right now. The question is, what are you going to do about it? Not a man here should go home without stopping in Austin on his way. If one hundred doctors were to alight in Austin in the morning, and personally interview not only their own representatives but any with whom they might come in contact, the complexion of the Legislature would change instantly. Our friends in the Legislature must not only be for us but they must know why they are for us. This information they must have. Many of those who would be our friends occupy somewhat this position: They say, "Yes, we were willing to permit the doctors to standardize their profession, and we are now equally as willing to let the chiropractors do the same thing with their profession." The answer is easy. There is but one medical profession. It is composed of educated, honest, conscientious and God-fearing men and women who devote themselves to the treatment of the sick by any method whatsoever, bringing to their aid all known scientific facts. Those who do not recognize the necessities of the sick and are interested only in certain peculiar methods of treatment, are not of the medical profession and have nothing to standardize. We cannot be interested in what a man is going to do for a sick person if he cannot first find out what is the matter, and when he publicly and boldly asserts that he does not need to know what is the matter—does not need to make a diagnosis, he places himself outside the pale.

Your friends in the Legislature need to know that you care, and there are those in the Legislature who would be your friend and would be easily influenced to action by a little sensible talk along this line. Personally indpendent of probable results, I have consecrated my life, at least that part of it which can be spared from professional necessities, to the duty, and it shall always be my privilege, of preventing my State from following the lead of other states that have been seduced by the tears of christian scientists and the bombast of chiropractors. (Applause). I do not care to boast, but I will say to you that in a campaign, beginning at my home and extending through East Texas and back from Texarkana to Gainesville, and through North Texas and at such places as Brownwood and Amarillo, and other parts of the State, I addressed great audiences, in an effort to explain the need of amending our Medical Practice Act and of standardizing the requirements for the practice of medicine, and everywhere I found my audiences deeply interested. It is the easiest doctrine in the world to teach, because it is all true. It is supported by all the reason, all the logic and all the morals. We know what the underworld is. Churches do their best and welfare workers try their hand, and in spite of it all there are those who must be consigned to the human scrap heap, the Nation's underworld. There is a medical underworld, and that is the gang we are gunning for. Let us get it clear in our minds when we discuss the issue, that it is not merely the chiropractor—they have only made themselves a target; it is not the christian scientists, necessarily—these have come as allies to those against whom we must contend. A state which maintains a Class "A" medical department in its university and appropriates money to teach bacteriology and pathology, cannot but maintain that an educated man is a safer practitioner of medicine and a safer person to whom to entrust its sick citizens, than an ignorant practitioner, no matter what system he proposes to practice.

But the point is, how about Austin tomorrow, and the proposed hundred doctors to go there? I have personally spent something like two months in the field, and almost as much money as the State Medical Association for the same purpose and in the same length of time, but I expect to arrive in Austin tomorrow morning. How many will meet me there?

Numerous of those present arose and pledged themselves to go to Austin on the night train.

The Secretary: Mr. President, I am directed by the House of Delegates to inform the General Session that the following officers have been elected to serve for the ensuing year:

NEWLY-ELECTED OFFICERS.

President-Elect—Dr. M. F. Bledsoe, Port Arthur.

Vice-Presidents—Drs. J. W. Torbett, Marlin; A. A. Ross, Lockhart; J. N. White, Texarkana.

Trustee—Dr. John S. Turner (re-elected), Dallas.

Councilors—Second District, Dr. P. C. Colema (re-elected), Colorado; Seventh District, Dr. Joe Gil bert (re-elected), Austin; Eighth District, Dr. O. S McMullen (re-elected), Victoria; Ninth District, Dr W. B. Thorning (re-elected), Houston; Tenth District, Dr. D. S. Wier, Beaumont.

Delegates American Medical Association—Plac No. 3, Dr. Holman Taylor (re-elected), Fort Worth Place No. 4, Dr. S. P. Rice, Marlin; Place No. 5, Dr Joe Becton, Greenville.

Alternate Delegates, A. M. A.—Place No. 3, Dr. M. L. Graves, Galveston; Place No. 4, Dr. H. F. Connally, Waco; Place No. 5, Dr. G. B. Foscue (re-elected), Waco.

Council on Medical Defense—Dr. W. D. Jones (re-elected), Dallas.

Council on Legislation and Public Instruction (Including ex-officio and holdover members)—President, Dr. A. C. Scott (ex-officio); Secretary, Dr. Holman Taylor (ex-officio); Chairman Board of Councilors, Dr. W. B. Thorning (ex-officio); Drs. C. M. Rosser, Dallas; A. F. Beverly, Austin; W. B. Russ, San Antonio; Joe Becton, Greenville; H. W. Cummings, Hearne; S. E. Thompson, Kerrville; I. C. Chase, Fort Worth; A. A. Ross, Lockhart; M. F. Bledsoe, Port Arthur.

Place of Meeting—San Antonio.

The President: I will ask Drs. Howard and Ross to introduce the newly elected President-Elect, Dr. Bledsoe of Port Arthur. Dr. Bledsoe is not here. The Secretary will introduce the other officers elected.

The Secretary: Ladies and Gentlemen, this is Dr. A. A. Ross of Lockhart, and this is Dr. J. N. White of Texarkana, two of the three Vice-Presidents. Dr. John S. Turner of Dallas, re-elected Trustee.

Dr. Turner: I appreciate very much the honor that has been conferred on me. Along with the other Trustees, I shall be glad to conserve your funds the very best I can, and to spend them for the best interests of the Association. (Applause.)

The Secretary: There is Dr. Thorning getting to his feet. That is Joe Gilbert coming up, and McMullen. You know these gentlemen as well as I do, and we will get them introduced by the time they get here. They are all old-timers. (Applause.) If they will pull off their collars I will show you yoke scars on every one of them. Doctors Joe Becton and Holman Taylor, Delegates to the A. M. A. We are both grateful for the honor.

On the Council on Legislation and Public Instruction, Dr. Beverly is here, Dr. Becton has just gone. Drs. Ross and Cummings, both old-timers, one a past president. The others have gone. Mr. President, that is all.

There is no further business on the Secretary's table.

Upon motion of Dr. J. N. White of Texarkana, seconded by Dr. R. S. Killough of Amarillo, the Fifty-seventh Annual Session of the State Medical Association of Texas adjourned *sine die*.

MISCELLANEOUS

REPORT OF CASE OF UNCONTROLLABLE UTERINE HEMORRHAGE.

This case is reported not because it is unusual, but because of its therapeutic interest.

Mrs. M. J., aged 22, had influenza in December, 1921, during convalescence from which she suffered an incomplete abortion at three months. She was removed to a hospital, the uterus carefully cleaned of the retained secunda. Convalescence was uninterrupted until the bleeding started again on the fifth day. It could not this time be controlled by medication. Thinking it possible that the uterus might not be completely emptied, I carefully cleaned it with a dull curette, and afterwards packed the uterus. The packing was removed in twenty-four hours.

For two days the bleeding stopped, then appeared an oozing of blood, which gradually became worse. Three injections of horse serum controlled the bleeding to some extent for several days, after which the hemorrhags started again. Coagulose was injected into the uterine cavity, pituitrin was given hypodermically, and ergot and stypticin by the mouth, in turn, controlling the bleeding only to a slight degree.

After several careful vaginal examinations, there seemed to be some slight tenderness in the right ovary and by a stretch of the imagination the ovary seemed somewhat enlarged. Exploratory operation was advised, but refused. Knowing that radium would definitely stop hemorrhage, and *x*-ray would probably do so, I chose the *x*-ray because of its lesser deleterious effect on the genital organs.

The *x*-ray was applied with particular reference to the right ovary. This was done by Dr. W. A. Ostendorf. For forty-eight hours following the *x*-ray the bleeding increased somewhat, after which time there was a gradual lessening, but the bleeding did not stop altogether. Two weeks later the patient was given a second exposure. This time, as before, the hemorrhage increased for the first forty-eight hours, then gradually became less. Five days after exposure the bleeding stopped entirely, and the patient has had no trouble since. Examination at this time shows the ovary to be free from any tenderness.

I believe this treatment saved this woman from an abdominal operation, which, in her condition would have been accompanied by more than the ordinary danger.

It seems to me that the hemorrhage was caused by a low grade inflammation of the ovary, caused by the influenza, and the abortion, which was also caused by the influenza.—A. A. Brown, M. D., Moore Bldg., San Antonio, Texas.

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES.

Tincture No. 111 Digitalis-P. D. & Co.—A fat-free tincture of digitalis which, standardized by the minimum lethal dose frog heart method of Houghton, is 50 per cent stronger than tincture of digitalis—U. S. P. The actions and used of tincture No. 111 digitalis-P. D. & Co. are the same as those of tincture of digitalis. It was introduced at a time when the "fat" of digitalis was believed to cause gastric disturbances. This claim of superiority is not tenable and the preparation is sold simply as a standardized tincture of digitalis. To minimize deterioration through light and air, the preparation is marketed in one-ounce amber vials and saturated with carbon dioxide. Parke, Davis & Co., Detroit, Mich.—*Jour. A. M. A.*, April 7, 1923.

Borcherdt's Malt Cod Liver Oil and Iron Iodite.—Each 100 c.c. contains ferrous iodite 0.88 Gm. (4 grains per fluidounce), cod liver oil, 25 c.c. and Borcherdt's malt extract (plain) 75 c.c. Borcherdt's Malt Extract Co., Chicago.—*Jour. A. M. A.*, April 21, 1923.

Carbon Tetrachloride Medicinal.—Carbon Tetrachloride has narcotic and anesthetic properties somewhat similar to those of chloroform. It has recently come into use as a vermifuge in the treatment of hookworm disease. It also removes some intestinal parasites other than the hookworm. It is reported that usually about 95 per cent of the hookworms are removed by the first dose. Its use appears to be relatively safe, but serious symptoms and even death have been reported. It is administered in water, milk or gelatin capsules on an empty stomach, followed by a purgative dose of magnesium sulphate.

The dose is from 2 c.c. to 3 c.c. (30 to 45 minims) for adults. Carbon tetrachloride is a heavy liquid, having an odor somewhat like that of chloroform. It is almost tasteless and almost insoluble in water.

Carbon Tetrachloride Medicinal-M. C. W.—A brand of Carbon Tetrachloride Medicinal—N. N. R. Mallinckrodt Chemical Works, St. Louis.

Carbon Tetrachloride C. P.-P. W. R.—A brand of Carbon Tetrachloride Medicinal—N. N. R. Powers-Weightman-Rosengarten Co., Philadelphia.—*Jour. A. M. A.*, April 21, 1923.

Modified Pneumococcus Vaccine.—A vaccine or "antigen" prepared by digesting a suspension of pneumococci, types I, II, III and Group IV at 37 C. until about 95 per cent of the organisms have become gram-negative and the mixture is relatively nontoxic to guinea pigs. It is believed that this method yields a vaccine with greater protective power. There is some evidence that this vaccine is of value in the treatment of lobar pneumonia. It is not intended for prophylactic use.

Pneumococcus Antigen-Lilly.—A modified pneumococcus vaccine—N. N. R. It is marketed in 5 c.c. vials, each containing twenty billion partially autolyzed pneumococci. Eli Lilly & Co., Indianapolis, Ind.—*Jour. A. M. A.*, April 21, 1923.

Sulpharsphenamine-Squibb.—A brand of sulpharsphenamine—N. N. R. (See *Jour. A. M. A*, March 31, 1923, p. 919.) It is supplied in ampules containing respectively, 0.1 Gm., 1.2 Gm., 0.3 Gm., 0.4 Gm., 0.5 Gm. and 0.6 Gm. E. R. Squibb & Sons, New York City.—*Jour. A. M. A.*, April 21, 1923.

Neo-Silvol.—A compound of silver iodid with a soluble gelatin base containing 18 to 22 per cent of silver iodid in colloidal form. Neo-silvol, even in concentrated solutions, causes neither irritation of mucous membranes nor coagulation of albumin. It does not stain the skin. It is claimed that Neo-silvol in laboratory tests for germicidal values has been found as effective as phenol in its action on bacteria. Neo-Silvol is intended for the prophylaxis against, and treatment of infections of accessible mucous membranes and is claimed to be indicated in affections of the genito-urinary tract and of the eye, ear, nose and throat. Parke, Davis & Co., Detroit, Mich.—*Jour. A. M. A.*, April 28, 1923.

Phenoltetrachlorphathalein-H. W. & D.—A dibasic dye formed by the condensation of phenol and tethachlorphathalic acid or its anhydride. Phenoltetrachlorphthalein has been used for the determination of the functional output of the liver. It can be used, in the form of the sodium salt, intravenously, but cannot be given subcutaneously or intramuscularly. The substance may also be obtained in the form of Ampules Phenoltetrachlorphthalein containing a solution of disodium phenoltetrachlorphthalein. Hyson, Wescott & Dunning, Baltimore, Md.—*Jour. A. M. A.*, April 28, 1923, p. 1218.

NEWS

Addition to Homan Sanatorium.—Plans have recently been completed for an addition to the Homan Sanatorium for the treatment of tuberculosis, at El Paso. The addition will cost approximately $150,000. It is intended to make it the last word in tuberculosis sanitoria.

Addition to William Beaumont Hospital (El Paso).—This institution will add a special building in which to house the electrical treatment appliance soon to be installed. It is the intention of the Federal Government to see that this hospital maintains the very highest scientific and practical standards.

Buie Clinic Damaged by Fire.—On March 4, the north side of the Buie Clinic, at Marlin, was partially destroyed by fire, the extent of the damage being estimated at $6,000. The bath department was damaged to the extent of $1,500, by water. It is noted that the fire originated in defective electrical wiring.

The damages have been repaired and the destroyed equipment replaced. The laboratories and departments devoted to treatment were not injured. The damages were covered by insurance.

Appropriations for Physicians in Small Towns.—The New Hampshire Legislature has recently passed a law which permits any town to raise money toward the support of a resident physician which, in the absence of such appropriation, could not obtain one. The act became effective, April 5.

SOCIETY NEWS

Personals.—Dr. Albert Woldert of Tyler, was married May 6, 1923, to Miss Elva Buford of Henderson, Texas. Their honeymoon trip was to the Pacific Coast, by way of the annual session of the State Medical Association, in Fort Worth.

Dr. C. M. Rosser of Dallas, president of the Dallas County Medical Society, was honored by his fellow physicians and friends, March 25, 1923, at which time a loving cup of beautiful design was presented to him. The cup bore the following inscription: "Presented to Dr. C. M. Rosser, Citizen—Surgeon—Humanitarian, in appreciation of his services in the interest of our profession and the public, by co-members of the Dallas County Medical Society, March 23, 1923."

The occasion was presided over by Dr. F. B. Morgan, and the presentation was made by Dr. J. M. Martin. Mrs. N. B. Ford and Mr. N. T. Blackwell, eulogized Dr. Rosser and his services in behalf of his lay friends. Particular appreciation of the services of Dr. Rosser in the passage of the amendments to the Medical Practice Act was expressed.

El Paso Personals.—Dr. W. S. Sharp, who for four years has been associated with Drs. Brown & Brown as local surgeon for the El Paso & Southwestern Railroad, has returned from postgraduate work in New York and Rochester, Minn., and will hereafter engage in strictly private practice.

Dr. J. C. Darracott, who formerly practiced at Marfa, Texas, and following the war located in El Paso, has returned to Marfa, where he will again practice.

Dr. H. T. Safford has discontinued general practice and formed a partnership with Dr. F. O. Barrett, specializing in anesthetics and obstetrics. As both Dr. Safford and Dr. Barrett have been making this a special study for several years, they will be a great asset to the medical staff of El Paso.

CHANGES OF ADDRESS.

Dr. G. W. Wentz, from Mexia to Mirando City.
Dr. J. A. T. Page, from Baileyville to Winchester.
Dr. J. E. May, from Cameron to Blue Ridge.
Dr. R. B. Anderson, from San Marcos to Thorndale.
Dr. J. V. Gaff, from Austin to Rio Grande.
Dr. T. M. Morrison, from Rio Grande to Grosvenor.
Dr. F. V. Gomez, from San Antonio to Mexico City.
Dr. C. E. Alexander, from Manning to St. Louis, Mo.
Dr. F. C. Parrott, from McCauley to Sabine.
Dr. E. B. Ellis, from Hubbard to Streetman.
Dr. T. L. McDonald, from Leroy to Laredo.
Dr. L. F. Johnson, from Beaumont to Trinity.
Dr. A. C. Hornbeck, from Kosse to Marlin.
Dr. L. C. Ellis, from Denison to Dallas.
Dr. A. R. Matthews, from Childress to Muleshoe
Dr. B. W. Wood, from Gilmer to Port Arthur.
Dr. J. E. Willerson, from Lampasas to Waco.
Dr. H. F. Pettigrew, from Terrell to Malakoff.
Dr. Theo Dorsett, from Sulphur Springs to Marshall.
Dr. A. J. White, from Laredo to Dawson, N. M.

MEMBERSHIP

STATE MEDICAL ASSOCIATION OF TEXAS

June 1923

No. 1. El Paso District, composed of the following counties: Brewster, Culberson, El Paso, Jeff Davis, Loving, Pecos, Presidio, Reeves, Terrell, Ward and Winkler.

No. 2. Big Spring District, embracing the following counties: Andrews, Borden, Cochran, Crane, Dawson, Dickens, Ector, Fisher, Gaines, Garza, Glasscock, Howard, Hockley, Jones, Kent, King, Lynn, Martin, Midland, Mitchell, Nolan, Scurry, Stonewall, Taylor, Terry, Upton and Yoakum.

No. 3. Panhandle District, embracing the following counties: Armstrong, Bailey, Briscoe, Castro, Carson, Cottle, Childress, Collingsworth, Crosby, Deaf Smith, Dallam, Donley, Floyd, Gray, Hale, Hall, Hardeman, Hemphill, Hutchinson, Hansford, Hartley, Lamp, Lipscomb, Lubbock, Motley, Moore, Ochiltree, Oldham, Parmer, Potter, Randall, Roberts, Sherman, Swisher and Wheeler.

No. 4. San Angelo District, embracing the following counties: Brown, Coke, Concho, Crockett, Coleman, Irion, Kimble, Lampasas, Menard, Mills, McCulloch, Runnels, Schleicher, Sterling, Sutton and Tom Green.

No. 5. San Antonio District, embracing the following counties: Atascosa, Bandera, Bexar, Comal, Dimmit, Edwards, Frio, Guadalupe, Gillespie, Gonzales, Karnes, Kendall, Kerr, Kinney, La Salle, Maverick, Medina, Uvalde, Val Verde, Wilson and Zavalla.

No. 6. Corpus Christi District, embracing the following counties: Aransas, Bee, Brooks, Cameron, Dunn, Duval, Encinal, Hidalgo, Jim Wells, Kleberg, Live Oak, McMullen, Nueces, Refugio, San Patricio, Starr, Webb, Willacy and Zapata.

No. 7. Austin District, embracing the following counties: Bastrop, Blanco, Burnet, Caldwell, Hays, Lee, Llano, Mason, San Saba, Travis and Williamson.

No. 8. DeWitt District, embracing the following counties: Calhoun, Colorado, DeWitt, Fayette, Goliad, Jackson, Lavaca, Matagorda, Victoria and Wharton.

No. 9. Southern District, embracing the following counties: Austin, Brazoria, Burleson, Fort Bend, Galveston, Grimes, Harris, Madison, Montgomery, Polk, San Jacinto, Waller, Walker and Washington.

No. 10. Southeastern District, embracing the following counties: Angelina, Chambers, Hardin, Jefferson, Jasper, Liberty, Nacogdoches, Newton, Orange, Sabine, San Augustine, Shelby and Tyler.

No. 11. Eastern District, embracing the following counties: Anderson, Cherokee, Freestone, Henderson, Houston, Leon, Panola, Rusk, Smith and Trinity.

No. 12. Central District, embracing the following counties: Bell, Bosque, Brazos, Comanche, Coryell, Erath, Falls, Hamilton, Hill, Hood, Johnson, Limestone, Milam, McLennan, Navarro, Robertson and Somervell.

No. 13. Northwestern District, embracing the following counties: Archer, Baylor, Callahan, Clay, Eastland, Foard, Haskell, Jack, Knox, Palo Pinto, Parker, Shackelford, Stephens, Throckmorton, Wichita, Wilbarger and Young.

No. 14. Northern District, embracing the following counties: Collin, Cook, Dallas, Delta, Denton, Ellis, Fannin, Grayson, Hopkins, Hunt, Kaufman, Lamar, Montague, Rains, Rockwall, Tarrant Van Zandt and Wise.

No. 15. Northeastern District, embracing the following counties: Bowie, Camp, Cass, Franklin, Gregg, Harrison, Marion, Morris, Red River, Titus, Upshur and Wood.

FIRST OR EL PASO DISTRICT.

Dr. R. B. Homan, El Paso, Councilor.

EL PASO COUNTY MEDICAL SOCIETY.

Anderson, W. H., El Paso.
Arguelles, F. L., El Paso.
Armendariz, F., El Paso.
Armistead, E. K., El Paso.
Auerbach, L. B., El Paso.
Barrett, F. O. (Sec.), El Paso.
Branch, W. M., El Paso.
Britton, J. M. El Paso.
Britton, W. W., El Paso.
*Brown, C. P., El Paso.
Brown, J. W., El Paso.
Brown, W. L., El Paso.
Brunner, George, El Paso.
Byrd, E. L., Clint.
Calnan, G. B., El Paso.
Carter, Geo. D., El Paso.
*Cathcart, J. W., El Paso.
Clutter, B. F., El Paso.
Craige, B., El Paso.
Crossley, S. W., Ysleta.
*Crouse, H., El Paso.
Cummins, E. J., El Paso.
Darracott, J. C., Marfa.
Davis, W. J., El Paso.
Deady, H. P., El Paso.
Duckett, W. F., El Paso.
Duncan, E. A., El Paso.
Egbert, O., El Paso.
Fleming, M. A., El Paso.
Frazin, N. D., Mexico.
Gallagher, Paul, El Paso.
Galloway, B. E., Mexico.
Gambrell, J. H., El Paso.
Gammons, H. F., El Paso.
Garrett, F. D., El Paso.
Geer, R. H., El Paso.
Goldbloom, I., El Paso.
Gray, J. B., El Paso.
Haffner, S., El Paso.
Hardy, J. A., El Paso.
*Hendricks, C. M., (Pres.), El Paso.
Homan, R. B., El Paso.
Hunter, J. R., El Paso.
Irvin, E. H., El Paso.
Jamison, W. R., El Paso.
Johnson, W. E., El Paso.
Jones, R. G., El Paso.
Jones, W. T., Ft. Davis.
King, S. F., El Paso.
*Larrabee, W. S., El Paso.
Laws, J. W., El Paso.
Leff, M. I., El Paso.
*Leigh, Harry, El Paso.
Liddell, T. C., El Paso.
Long, A. D., El Paso.
Lynch, K. D., El Paso.
Mason, C. H., El Paso.
McCamant, T. J., El Paso.
McNeil, Irving, El Paso.
*Miller, F. P., El Paso.
Moore, W. C., Presidio.
Newman, S. H., El Paso.
Olivera, Zuniga W., El Paso.
Outlaw, P. R., El Paso.
Pickett, J. A., El Paso.
Prentiss, E. C., El Paso.
Price, E. D., El Paso.
Ramey, R. L., El Paso.
Randel, B. W., El Paso.
Rawlings, J. A., El Paso.
Reinemund, C. A. (deceased), El Paso.
Rheinheimer, E. W., El Paso.
Richmond, J. M., El Paso.
Riley, J. D., El Paso.
Rodarte, D., El Paso.
Rogers, E. B., El Paso.
Rogers, Will P., El Paso.
Robertson, J. A., El Paso.
Safford, H. T., El Paso.
Schuster, F. P., El Paso.
Schuster, S. A., El Paso.
Smallhorst, D. E., El Paso.
Smith, Carl Lee, El Paso.
Smith, W. R. (deceased), El Paso.
Stark, H. H., El Paso.
Stevens, B. F., El Paso.
Stevenson, H. E., El Paso.
Strong, E. D., El Paso.
*Tappan, J. W., El Paso.
Thompson, E. B., El Paso.
Thompson, H., El Paso.
Turner, George, El Paso.
Turner, S. T., El Paso.
Vance, James, El Paso.
Vandevere, W. E., El Paso.
Varner, H. H., El Paso.
Von Almen, S. G., El Paso.
*Waite, W. W., El Paso.
Weish, M., Karnes City.
Werley, G., El Paso.
White, A. H., Shafter.
White, H. S., El Paso.
White, W., El Paso.
Wilson, S. E., Corona, N. Mex.
Wilson, R. A., Terlingua.
Witherspoon, L. G., El Paso.
Worthington, G. W., Marathon.
Wright, B. W., El Paso.
Wright, M. O., El Paso.

REEVES-WARD-LOVING COUNTY MEDICAL SOCIETY.

Black, W. D., (Sec.), Barstow.
*Bryan, Ottis J., Pecos.
Camp, Jim. (Pres.), Pecos.
*Curtis, W. K., Midland.
Lusk, H. N., Pecos.

SECOND OR BIG SPRING DISTRICT.

Dr. P. C. Coleman, Colorado, Councilor.

ECTOR-MIDLAND-MARTIN-HOWARD COUNTY MEDICAL SOCIETY.

Bennett, W. H., Lamesa.
*Clark, H. T., Garden City.
Collins, T. M. (Sec.), Big Spring.
Davis, R. L., Big Spring.
Gilliam, H. A., Lamesa.
*Hall, G. T., Big Spring.
Hurt, J. H., Big Spring.
Loveless, J. C., Lamesa.
Thomas, Jno. B. Midland.
*True, G. S. (Pres.), Big Spring.

FISHER-STONEWALL COUNTY MEDICAL SOCIETY.

Allen, R. R., Roby.
*Callan, W. W. (Sec.), Rotan.
*Hambright, J. G. (Pres.), Roby.
Reaves, B. F., Rotan.
Sartor, E. R., Rotan.

JONES COUNTY MEDICAL SOCIETY.

Bickley, N. H., Stamford.
Blackwell, R. J., Hawley.
*Bowyer, O. McD., Anson.
Brown, I. Z., Lueders.
Bunkley, E. P., Stamford.
Bynum, J. T., Hamlin.
Hudson, F. E., Stamford.
*Jones, A. McK. (Sec.), Anson.
Magee, L. S., Hamlin.
McCreary, L. P., Hamlin.
*McCreight, W. J., Anson.
*McReynolds, A. D., Stamford.
*Montgomery, J. E., Stamford.
*Shapard, R. R. (deceased), Anson.

*The asterisk (*) indicates registration at Fort Worth Session.

Shaw, E. L., Aspermont.
*Southard, Dallas, Stamford.
Stephens, D. L., Anson.
*Taylor, J. F. (Pres.), Hamlin.
White, David, Hamlin.
Williams, D., Anson.
*Wylie, D. C., Peacock.

MITCHELL-NOLAN COUNTY MEDICAL SOCIETY.

*Chapman, A. A., Sweetwater.
*Coleman, P. C., Colorado.
Dudgeon, L. O. (Pres.), Sweetwater.
Fain, G. B., Blackwell.
Fortner, A. H. (Sec.), Sweetwater.
Hester, W. L., Loraine.
Martin, T. A., Loraine.
Monk, C. L., Sweetwater.
*Ratliff, T. J., Colorado.
Root, C. L., Colorado.
Rosebrough, C. A., Sweetwater.
Scott, H. C., Sweetwater.
Young, J. W., Roscoe.

SCURRY-DICKSON-KENT COUNTY MEDICAL SOCIETY.

Alldredge, W. D., Snyder.
Johnson, W. R., Snyder.
*Leslie, A. C., Snyder.
Rosser, H. E., Snyder.
Scarborough, A. O., Snyder.
Trigg, L. E. (Sec.), Snyder.
Ward, W. H., Hermleigh.
Whitmore, J. T. (Pres.), Snyder.

TAYLOR COUNTY MEDICAL SOCIETY

Alexander, J. M., Abilene.
Alexander, S. M., Abilene.
*Armstrong, M., Merkel.
*Bailey, J. H., Clyde.
Ball, J. H., Abilene.
Barnett, W. H., Abilene.
Bass, T. B., Abilene.
Boon, J. T., Bradshaw.
*Campbell, M. E., Abilene.
Cash, W. A. V., Abilene.
Cooper, A. J., Abilene.
Cooper, Stewart, Abilene.
Cranford, W. V., Merkel.
*Daly, J. M., Abilene.
Dowda, S. T., Abilene.
Estes, J. M., Abilene.
Griffith, J. K., Tuscola.
Grimes, R. I., Merkel.
Haynes, F. E., Abilene.
Hedrick, T. W., Abilene.
Holt, John M., Abilene.
Leggett, C. B. (Pres.), Abilene.
Lockett, B. L. (Sec.), Abilene.
Looney, A. D., Oplin.
Magee, J. D., Abilene.
*Matthews, W. J., Abilene.
*Pickard, L. J., Abilene.
Pope, A. J., Abilene.
*Rhodes, B. F., Abilene.
*Sandefer, G. H., Abilene.
Swan, A. H., Abilene.
*Tandy, H. B., Abilene.
Watkins, G. H., Trent.
*Warnick, J. H., Abilene.
Williams, Chas. F., Abilene.
Webster, R. A., Clyde.

THIRD OR PANHANDLE DISTRICT.

Dr. R. S. Killough, Amarillo, Councilor.

CHILDRESS-COLLINGSWORTH-DONLEY-HALL COUNTY MEDICAL SOCIETY

*Ballew, J. M., Memphis.
Bryan, F. B., Childress.
Cariker, Fred H., Childress.
Carroll, T. W., Clarendon.
Cross, D. D., Wellington.
Ellis, T. H., Clarendon.
Garner, J. E., Turkey.
Gooch, J. W., Shamrock.
Gosdin, W. S., Lakeview.
Harrell, J. F., Kirkland.
Hennen, J. C., Memphis.
Hyder, D. C., Memphis.
*Jenkins, B. L., Clarendon.
*Jenkins, Oscar L. (Sec.), Clarendon.
Jernigan, J. H., Childress.
*Jones, E. W., Wellington.
McFerran, R. W., Childress.
Mathews, A. R., Muleshoe.
*Michie, J. D., Childress.
*Miller, W. S., Estelline.
*Moss, E. W., Wellington.
Odom, J. A., Memphis.
Ozier, J. B., Hedley.
Schoolfield, H. F., Memphis.
Snyder, J. W., Childress.
Street, S. A., Wellington.
*Stricklin, C. G., Clarendon.
*Vardy, P. L., Estelline.
*Wardlaw, W. N., Childress.
*Wilder, H. L. (Pres.), Clarendon.
Wilson, C. F., Memphis.
*Wilson, Winifred, Memphis.
Wolford, R. B., Childress.

HALE-FLOYD-BRISCOE-SWISHER COUNTY MEDICAL SOCIETY.

*Anderson, J. C., Plainview.
Andrews, V., Floydada.
Cantrell, C. A., Plainview.
Donnell, C. E., Canyon.
Freeman, W. H., Sentinel, Okla.
Gidney, C. C., Plainview.
Greer, N. E., Lockney.
Guest, J. L., Plainview.
*Hays, A. R., Tulia.
Henry, S. M., Lockney.
Houghton, W. M., Floydada.
Jones, D. P. (Pres.), Plainview.
McLendon, E. F. (Sec.), Plainview.
Nichols, E. O., Plainview.
Owens, J. F., Plainview.
Pickett, James, Plainview.
Smith, G. V., Floydada.
*Smith, L. V., Floydada.
Thomas, D. J., Lockney.
*Underwood, S. J., Hale Center.
Wayland, J. H., Plainview.
Wayland, L. C., Plainview.

HARDEMAN-COTTLE COUNTY MEDICAL SOCIETY.

*Clark, Hines, Crowell.
Conley, J. W., Quanah.
*Frizzell, T. D., Quanah.
Hanna, J. J., Quanah.
Harper, J. W., Paducah.
*Horton, J. T., Quanah.
*Hughes, J. F., Roaring Springs.
*Johnson, W. H., Quanah.
*Jones, C. B. (Sec.), Quanah.
Lowery, T. A., Chillicothe.
McCullough, J. T., Quanah.
McDaniel, R. R. (Pres.), Quanah.
McGowan, E. E., Paducah.
McGowan, W. J., Paducah.
Radford, G. W., Quanah.
Stone, Frank, Paducah.
*Terry, S. D., Goodlet.

HEMPHILL-ROBERTS COUNTY MEDICAL SOCIETY.

Blank, O. E., Perryton.
Brewer, W. J., Perryton.
Collier, Wm., Gray, Okla.
Davis, J. J., Higgins.
Dawson, L. V. (Sec.), Canadian.
Gibner, G. P., Spearman.
Gower, J. B., Canadian.
Harris, B. A., Mobeetie.
Joss, W. I., Wheeler.
Newman, A. M., Canadian.
Nicholson, H. E., Wheeler.
*Snyder, E. H. (Pres.), Canadian.
Teas, F. D., Canadian.

LUBBOCK-CROSBY COUNTY MEDICAL SOCIETY.

Adams, S. H., Slaton.
Anderson, W. H., Littlefield.
Bates, Thos. G. (Pres.), Lubbock.
*Baugh, William L., Lubbock.
Castleberry, G. G., Lubbock.
Cravens, Wm. E., Lubbock.
*Green, J. A., Crosbyton.
Hall, R. J., Lubbock.
Hutchinson, J. T., Lubbock.
Krueger, J. T., Lubbock.
Miller, H. F., Slaton.
Miller, Sallie W., Slaton.
Moorehead, J. D., Meadows.
Overton, M. C., Lubbock.
Starnes, M. H. (Sec.), Lubbock.
*Townes, C. B., Tahoka.

POTTER COUNTY MEDICAL SOCIETY.

Askew, W. L., Amarillo.
*Bennett, R. M., Amarillo.
Biggers, M. A., Canyon.
Caldwell, A. J., Amarillo.
*Carroll, W. A., Claude.
Cole, Archie, Pampa.
*Crume, J. J., Amarillo.
Dunaway, E. T., Amarillo.
*Flamm, W. H., Amarillo.
Foster, Robert, Groom.
Fuller, M. L., Amarillo.
Gist, R. D., Amarillo.
Hicks, J. W., Hereford.
Johnston, E. A., Amarillo.
Jordan, J. D., Amarillo.
Kelley, J. H., Miami.
Keys, Richard (Sec.), Amarillo.
*Killough, R. S., Amarillo.
Latson, H. H. (Pres.), Amarillo.
Le Grand, G. F., Hereford.
Lindsay, A. H., Amarillo.
Lumpkin, A. F., Amarillo.
McMeans, R. L., Amarillo.
Montgomery, W. C., McLean.
Petty, L. E., Panhandle.
*Puckett, B. M., Amarillo.
Randall, C. F., Amarillo.
Rasco, I., Amarillo.
*Stewart, D. M., Canyon.
*Thomas, G. T., Amarillo.
*Vineyard, G. T., Amarillo.
Vineyard, R. L., Amarillo.
*Vineyard, S. P., Amarillo.
Walker, R. M., Amarillo.
Winsett, A. E., Amarillo.
Wrather, J. R., Amarillo.
*Zeigler, B. A., Shamrock.

FOURTH OR SAN ANGELO DISTRICT.

Dr. Joe E. Dildy, Brownwood, Councilor.

BROWN COUNTY MEDICAL SOCIETY.

Allen, Homer B., Brownwood.
*Allison, L. P., Brownwood.
*Anderson, A. L., Brownwood.
Anderson, W. B., Brownwood.
Ashcraft, E. J., Bangs.
Bailey, T. B., Brownwood.
Bowden, A. M., May.
*Brown, M. L., Brownwood.
Bullard, C. C., Brownwood.
*Campbell, J. M., Goldthwaite.
Cearnel, A. E., Indian Creek.
Coble, R. L., Zephyr.
*Daughety, Jewell, Brownwood.
*Dildy, Joe E., Brownwood.
*Fowler, B. A. (Pres.), Brownwood.
Herrington, J. L., Mullin.
Holder, T. D., May.
Horn, J. M., Brownwood.
Howell, R. L. Brownwood.
Lobenstin, H. L., Brownwood.
*Locker, H. L., Brownwood.
*Mayo, O. N., Brownwood.
McDaniel, H. M., May.
Nichols, J. M., Bangs.
*Paige, W. H., Brownwood.
Pier, T. J., Brownwood.
*Shelton, B. M., Brownwood.
Snyder, E. W., Brownwood.
Snyder, Ned., (Sec.), Brownwood.
Taylor, A. L., Brownwood.
*Tottenham, J. W., Brownwood.
McCarver, J. W., Brownwood.

COLEMAN COUNTY MEDICAL SOCIETY.

Alexander, C. M., Coleman.
Armstrong, J. M., Coleman.
Aston, S. N., Coleman.
Bailey, R., Coleman.
Beaumont, G. B., Coleman.
Cochran, R. H. (Sec.), Coleman.
Hayes, T. M., Santa Anna.
Holland, W. F., Santa Anna.
Jennings, W. L., Coleman.
Lovelady, R. R. (Pres.), Santa Anna.
Manes, O. B., Coleman.
Mitchell, H. H., Valera.
Pope, J. G., Coleman.
Price, Sterling, Burkett.
Sealy, T. R., Santa Anna.
Smith, C. E., Talpa.
Tyson, Jason, Santa Anna.
Tyson, John, Cross Plains.
Walker, M. G., Coleman.

LAMPASAS COUNTY MEDICAL SOCIETY.

Beaumont, E. C., San Saba.
Black, D. W., Lampasas.
Biggs, W. D., Lampasas.
Bivins, L. L., Adamsville.
Dorbandt, J. D., Lampasas.
*Francis, W. D., Lampasas.

Gaddy, H. R., Copperas Cove.
Hicks, J. T., Moline.
Jones, H. R., Mullin.
Landrum, M. M., Lampasas.
Lowe, W. M. (Pres.), Lometa.
Monk, J. A., Kempner.
Pearce, Boyd F., Izoro.
Townsen, J. B., Lampasas.
Townsen, J. G. (Sec.), Lampasas.
Whittenberg, W. A., Lometa.
Willerson, J. E., Waco.

MENARD-KIMBLE COUNTY MEDICAL SOCIETY.

Leggett, J. A. (Sec.), Menard.

McCULLOCH COUNTY MEDICAL SOCIETY.

*Anderson, J. S. (Sec.), Brady.
Baze, P. A., Mason.
*Beach, W. W., Mason.
Beakley, B. B., Melvin.
Granville, J. B. (Pres.), Brady.
Hutchinson, J. L., Pontotoc.
*Jackson, O. C., Voca.
*Land, Wm., Lohn.
Matlock, J. W., Rochelle.
McCall, J. G., Brady.
Stone, J. B., Pear Valley.

RUNNELS COUNTY MEDICAL SOCIETY.

Blasdell, J. W., Ballinger.
Cheatham, A. B., Millersview.
Dixon, J. W., Winters.
Douglas, J. G., Ballinger.
Halley, W. B. (Pres.), Ballinger.
Jennings, T. V., Winters.
Love, A. S., Ballinger.
Lassater, O. R., Ballinger.
Middleton, E. R., Winters.
Rives, C. T. (Sec.), Winters.
Shiller, J. J., Rowena.

TOM GREEN COUNTY MEDICAL SOCIETY.

Batts, E. L., San Angelo.
Blanton, A. G., Sonora.
Chaffin, J. B., San Angelo.
Chambers, W. F., San Angelo.
Clayton, A. W. (Pres.), San Angelo.
Cobb, W. W., San Angelo.
Cornick, Boyd, San Angelo.
Deal, E. O., Mertzon.
*DeLong, A. C., San Angelo.
*Eaton, C. E., Robert Lee.
*Fowler, D. D., Paint Rock.
*Herndon, J. H., Miles.
Hess, D. L., San Angelo.
Hinde, H. K. (Sec.), San Angelo.
Hixon, J. S., San Angelo.
Horney, Harlan, San Angelo.
Keyes, C. T., San Angelo.
Kight, J. R., San Angelo.
Leonard, J. D., Bronte.
*Lewis, G. L., San Angelo.
Marberry, A. J., San Angelo.
*Mays, C. E., San Angelo.
McAnulty, J. P., San Angelo.
*McKnight, J. B., Sanatorium.
*Nibling, G. W., San Angelo.
Rush, H. P., San Angelo.
Turney, F. K., San Angelo.
Wardlaw, H. R., San Angelo.
Williams, J. M., San Angelo.
Womack, C. T., San Angelo.
Yates, G. M., San Angelo.

FIFTH OR SAN ANTONIO DISTRICT.

Dr. C. S. Venable, San Antonio, Councilor.

ATASCOSA COUNTY MEDICAL SOCIETY.

Atkinson, Roger, Pleasanton.
Davis, W. A., Atlanta, Ga.
Duncan, John W. (Sec.), Jourdanton.
Gipson, William M., Lytle.
Guynes, John T., Jourdanton.
Irwin, Clyde M., Charlotte.
*Mann, Robt. E., N. Pleasanton.
Shotts, C. C., Poteet.
*Touchstone, R. B., Lytle.
Whittet, Mary J. (Pres.), Anchorage.

BEXAR COUNTY MEDICAL SOCIETY.

Adams, R. Stuart (Sec.), San Antonio.
Adams, E. S., San Antonio.
Altheide, C. H., San Antonio.
Allin, F. A., San Antonio.
Applewhite, S. C., San Antonio.
Anderson, J. L., San Antonio.
Atkinson, D. T., San Antonio.
Askew, T. B., San Antonio.
Baird, O. C., San Antonio.
Baker, Cyrus R., San Antonio.
*Barron, W. M., San Antonio.
Bassett, W. M., San Antonio.
Beal, A. R., San Antonio.
Beck, Lewis K., San Antonio.
Beakley, S. S., San Antonio.
Beckmeyer, J. F., San Antonio.
Bennett, W. R., San Antonio.
Berrey, D., San Antonio.
Berchelmann, A., San Antonio.
Bettes, C. E., San Antonio.
Biggar, J. H., San Antonio.
Bliem, M. J., San Antonio.
Boehs, Chas. J., San Antonio.
Bowen, R. E., San Antonio.
Bowen, P. G., San Antonio.
Brassell, T. C., San Antonio.
Braunnagel, J., San Antonio.
*Brown, A. A., San Antonio.
Brustad, L. A., San Antonio.
Brymer, Wm. A., San Antonio.
Burg, S., San Antonio.
Burg, Edw. M., San Antonio.
Burk, W. E., San Antonio.
*Burleson, J. H., San Antonio.
Bush, H. M., San Antonio.
Cade, C. C., San Antonio.
Cade, W. H., San Antonio.
Campbell, C. A. R., San Antonio.
Cassity, J. C., San Antonio.
Cayo, E. A., San Antonio.
Cerna, David, San Antonio.
Chatten, E. A., San Antonio.
Clark, A. F., San Antonio.
Cook, Clara J., San Antonio.
Clavin, E. C., San Antonio.
Cook, Paul, San Antonio.
Combe, F. J., San Antonio.
Cotham, C. M., San Antonio.
Coyle, J. E., San Antonio.
*Cunningham, S. P., San Antonio.
Cutter, Irving T., San Antonio.
Davidson, A. M., San Antonio.
Decker, C. M., San Antonio.
*De Pew, E. V., San Antonio.
Dinwiddie, Robt. L., San Antonio.
Dixon, C. D., San Antonio.
*Dorbandt, Thos. M., San Antonio.
Dreiss, A. M., San Antonio.
Duggan, Malone, San Antonio.
Dumas, Edw. D., San Antonio.
Durant, Ira E., San Antonio.
Ellis, Jno. W., San Antonio.
Elmendorf, E. H., San Antonio.
Evans, E. O., San Antonio.
*Farmer, W. C., San Antonio.
Felder, J. L., San Antonio.
Forbes, M. A., San Antonio.
*Frey, Conrad, Somerset.
Goeth, R. A., San Antonio.
*Goode, J. W., San Antonio.
Goodson, T. N., San Antonio.
Goodwin, R. T., San Antonio.
Graves, Amos, San Antonio.
Gray, E. H., San Antonio.
Gwinn, G. E., San Antonio.
Haggard, F. N., San Antonio.
*Haley, J. F., San Antonio.
Hamilton, W. S., San Antonio.
Hargis, W. H., San Antonio.
Harper, Mary C., San Antonio.
Harrell, T. H., Evansville, Ind.
Herff, Adolph, San Antonio.
Herff, F. P., San Antonio.
Herff, John, San Antonio.
Hicks, F. M., San Antonio.
Hicks, W. D., San Antonio.
Hill, H. Phil, San Antonio.
*Hirschfield, L., San Antonio.
Hull, A. O., San Antonio.
Hull, Theo. Y., San Antonio.
*Jackson, Dudley, San Antonio.
*Jackson, M. B., San Antonio.
Jackson, L. B., San Antonio.
Jackson, R. S., San Antonio.
Jewell, R. C., San Antonio.
Johnson, G. L., San Antonio.
Johnson, H. McC., San Antonio.
Johnson, Allen, San Antonio.
Johnston, L. S., San Antonio.
*Judkins, O. H., San Antonio.
*Kahn, I. S., San Antonio.
Kaliski, S. R., San Antonio.
Kelley, Cole, San Antonio.
Kenney, J. W., San Antonio.
Kenney, Nat M., San Antonio.
Kinard, H. S., San Antonio.
King, W. A., San Antonio.
Kingsley, B. F., San Antonio.
Kitowski, C. B., San Antonio.
Klieforth, F. H., San Antonio.
Lankford, J. S., San Antonio.
Largen, Douglas, San Antonio.
Leap, H. L., San Antonio.
*Lehman, C. F., San Antonio.
*Lowry, S. T., San Antonio.
Luter, Wm. E., San Antonio.
Lochte, E. R., San Antonio.
Manhoff, Louis J., San Antonio.
McCamish, E. W. (Pres.), San Antonio.
*McCorkle, R. G., San Antonio.
McDaniel, A. C., San Antonio.
McDaniel, A. S., San Antonio.
*McGlasson, I. L., San Antonio.
*McIntosh, J. A., San Antonio.
McManus, Wm. F., San Antonio.
Milburn, C. L., San Antonio.
Miller, Emma T., San Antonio.
Miller, Jas. M., San Antonio.
Miller, J. B., San Antonio.
Moody, T. L., San Antonio.
Moore, J. M., San Antonio.
Morrisey, A. J., San Antonio.
Moss, Robt. E., La Grange.
*Nesbit, W. E., San Antonio.
Nicholson, J. R., San Antonio.
Nixon, P. I., San Antonio.
Nixon, J. W., San Antonio.
Noster, A. H., San Antonio.
O'Brien, Minnie C., San Antonio.
*Ogilvie, H. H., San Antonio.
Oldham, J. P., San Antonio.
Ostendorf, W. A., San Antonio.
Oxford, J. W., San Antonio.
Pagenstecher, G. A., San Antonio.
Parker, T. T., San Antonio.
Parsons, W. H., San Antonio.
Paschal, Geo. H., San Antonio.
*Paschal, Frank, San Antonio.
Paschal, F. L., San Antonio.
Porter, Geo. L., San Antonio.
Potthast, O. J., San Antonio.
Powell, E. T., San Antonio.
Powers, V. B., San Antonio.
Pridgen, J. L., San Antonio.
Redmond, F. H., San Antonio.
Reyes, A. R., San Juan, Porto Rico.
Ricks, Geo. N., San Antonio.
Roberts, R. A., San Antonio.
Robertson, T. W., San Antonio.
*Robbie, Mary K., San Antonio.
Rosebrough, F. H., San Antonio.
Ross, Rex R., San Antonio.
*Russ, W. B., San Antonio.
Russell, Dan A., San Antonio.
Scull, C. E., San Antonio.
Sharpe, E. L., San Antonio.
Shaw, Thad., San Antonio.
Shepherd, W. F., San Antonio.
Shipman, E. D., San Antonio.
Shropshire, L. L., San Antonio.
Smith, R. K., Elmendorf.
Smith, B. F., San Antonio.
Sorell, F. W., San Antonio.
Southgate, Jessie, San Antonio.
Springer, J. G., San Antonio.
Spring, J. V., San Antonio.
Stansell, Ivy, San Antonio.
Steele, J. S., San Antonio.
Stieler, Albert, San Antonio.
Steinweinder, C. D., San Antonio.
Stokes, W. B., San Antonio.
*Stout, B. F., San Antonio.
Strayhorn, J. M., San Antonio.
Sykes, E. M., San Antonio.
*Tainter, L. K., Fredericksburg.
Taylor, C. W., San Antonio.
Terrell, Frederick, San Antonio.
Thomson, F. L., San Antonio.
Timmins, O. H., San Antonio.
Urmston, Wm. B., San Antonio.
*Venable, C. S., San Antonio.
Venable, J. Manning, San Antonio.
Wall, J. A., San Antonio.
Walsh, F. C., San Antonio.
Walthall, T. J., San Antonio.
Watts, J. A., San Antonio.
Weinfield, L. M., San Antonio.
Whitacre, Stanley, San Antonio.
*Wilson, Homer T., San Antonio.
Withers, Robt. L., San Antonio.
Witte, B. E., San Antonio.
Wolf, Wm. M., San Antonio.
Wyneken, H. O., San Antonio.

COMAL-GUADULUPE COUNTY MEDICAL SOCIETY.

Anderson, R. B., Seguin.
*Barnwell, J. F., Johnson City.

Bergfield, A. W., New Braunfels.
Brandenberger, M. B. (Sec.), Seguin.
Dozier, J. V., Cibolo.
Garwood, A., New Braunfels.
*Hagler, M. C., New Braunfels.
Hinman, A. J., New Braunfels.
*Karbach, F. R. (Pres.), Marion.
*Knolle, R. L., Seguin.
Lackey, Geo. M., Staples.
Moore, P. L., Marion.
Myers, Wm., Seguin.
Neighbors, A. H., Seguin.
*Poth, N. A., Seguin.
Raetzsch, Carl W., Seguin.
Stamps, A. M., Seguin.
Wille, L. G., New Braunfels.
Williamson, Cleburne, Seguin.
Wright, Rennie, New Braunfels.

GONZALES COUNTY MEDICAL SOCIETY.

Brooks, R. C., Waelder.
*Dawe, W. T. (Sec.), Gonzales.
Dexter, L. G., Harwood.
Dunning, W. T., Gonzales.
Elder, N. A. (Pres.), Nixon.
Fouts, J. J., Gonzales.
Graham, G., Douchette.
Henderson, J. C., Waelder.
Hensley, J. W., Dewville.
Holmes, George, Gonzales.
Hurley, H. P., Smiley.
Littlefield, V. C., Nixon.
Mannering, M., Cheapside.
Maness, J. A., Gonzales.
*Parr, A. B., Gonzales.
Robertson, H. W., Waelder.
Smith, J. C., Gonzales.
*Stahl, L., Gonzales.

KARNES-WILSON COUNTY MEDICAL SOCIETY.

Cook, J. A., Gillett.
Hammock, R. L., Kenedy.
Hickle, W. F., Kenedy.
Kent, C. M., Kenedy.
King, S. A., Karnes City.
Martin, R. G., Lavernia.
Martinez, Peter, Kenedy.
*Pressly, T. A., Runge.
Rushing, H., Runge.
Sparks, J. E., Floresville.
Ware, Ella, Stockdale.
Wilbern, D. Y. (Pres.), Runge.
Young, E. R., Charco.
Youngblood, R. C. (Sec.), Falls City.

KERR-KENDALL-GILLESPIE-BANDERA COUNTY MEDICAL SOCIETY.

Butler, J. O., Bandera.
*Edwin, John H., Bandera.
Gardner, J. N., Boerne.
Hartzke, O. F., Comfort.
Jackson, J. D. (Sec.) Kerrville.
*Jones, C. C., Comfort.
Keidel, Victor, Fredericksburg.
Koerth, Chas. J., Legion.
McBeth, C. A., Harper.
McDonald, J. E., Kerrville.
Nooe, J. F., Boerne.
Palmer, E. E., Kerrville.
Peden, J. E., Fredericksburg.
Rappold, J. M., Bandera.
Roberts, A. A., Kerrville.
Secor, Wm. Lee, Kerrville.
Swayze, H. Y. (Pres.), Kerrville.
*Thompson, S. E., Kerrville.
Witte, O. B., Fredericksburg.

LA SALLE-FRIO-DIMMITT COUNTY MEDICAL SOCIETY.

*Beall, J. E., Pearsall.
Barnard, W. L., Carrizo Springs.
Bradbrook, J. A., Asherton.
Fay, H. W., Dilley.
Graham, R. L., Schertz.
Hargus, J. W., Asherton.
Howard, E. M. (Pres.), Pearsall.
Lightsey, J. N., Cotulla.
Pickett, B. E. (Sec.), Big Wells.
Sanders, J. T., Dilley.
Whittaker, A., Big Foot.
Williamson, L. C., Pearsall.

MEDINÁ-UVALDE-MAVERICK COUNTY MEDICAL SOCIETY.

Bowman, Alfred R., Uvalde.
Bradley, B. B., Hondo.
Cantu, Lorenzo (Pres.), Eagle Pass.
Doty, W. H., Del Rio.
Eads, Jesse W., Barksdale.
Fitzsimon, J. T., Castroville.
Gates, Ellis F., Eagle Pass.
Hines, B. M., Uvalde.
Hudson, S. B., Hondo.
Knox, Thomas R., Uvalde.
Long, Miguel M., Eagle Pass.
Macune, J. W., Eagle Pass.
Martin, R. F., Crystal City.
Meyer, Henry J., Hondo.
Montemayor, Braulio, Eagle Pass.
Myrick, C. R., Uvalde.
*Orr, B. F., Del Rio.
Palmer, John W., Knippa.
*Ramsdell, M. A. (Sec.), Eagle Pass.
Robertson, P. F., Sanderson.
Rogers, J. E., Rock Springs.
Ross, Horace B., Del Rio.
Scott, Robt. M., Del Rio.
Smith, Wm. H., Hondo.
Springfield, A. J., Leakey.
Woods, N. I., Cline.
York, D. A., Del Rio.

SIXTH OR CORPUS CHRISTI DISTRICT.

Dr. F. U. Painter, Corpus Christi, Councilor.

BEE COUNTY MEDICAL SOCIETY.

Carson, J. W., Cadiz.
*Chilton, L. W., Goliad.
Griffin, L. L., Beeville.
La Forge, Herschel, George West.
Luehrs, H. E., Ojuela Estado de Durango, Mexico.
McNeil, Scott, Beeville.
Neeley, Houston (Sec.), Beeville.
Parr, L. E., Beeville.
*Poff, C. M., Tuleta.
Prather, R. M., Beeville.
Stephens, G. M., Beeville.
*Thompson, I. N., Mathis.
*Turner, A. J., Beeville.

CAMERON COUNTY MEDICAL SOCIETY

Brown, W. O., San Benito.
Cash, C. M., San Benito.
Castillo, J. A., Brownsville.
Cole, B. L., Brownsville.
*Davidson, N. A., Harlingen.
Dickason, E. E., Mexico.
Hockaday, J. A. (Pres.), Point Isabel.
Lawrence, O. V., Brownsville.
Loew, Harry K., Brownsville.
McBride, G. A., Harlingen.
Morris, E. T. (Sec.), San Benito.
Pumarejo, A., Brownsville.
Rentfro, J. L., Brownsville.
*Spivey, W. E., Brownsville.
Tribble, J. J., Brownsville.
White, H. A., Raymondville.
Works, B. M., Brownsville.
Works, B. O., Brownsville.
Works, R. L., Brownsville.
Yantis, G. R., Brownsville.

HIDALGO COUNTY MEDICAL SOCIETY.

Austin, A. J. J., Mission.
Balli, Carlos M., McAllen.
Barrera, C. E., Mission.
Buck, Chas. B., Mercedes.
Burnett, T. B., Mission.
Caldwell, T. J., Mission.
Conard, J. W., Pharr.
Dashiell, W. R., Mission.
Davis, L. M., Donna.
Doss, J. M., McAllen.
Edgerton, Geo. W., Riogrande.
Edgerton, Mary H., Riogrande.
Gaff, J. V., Riogrande.
*Garst, H., Pharr.
Harrison, J. G., McAllen.
Heidrick, D. L., Mercedes.
Hunter, John H. (Sec.), La Feria.
Jeffries, J. W., Mission.
Lemmon, H. B., Mercedes.
Lockhart, J. P., Pharr.
Mahone, T. R., Pharr.
Malone, W. T., Kosse.
Martin, C. J., Alamo.
McGee, W. N., McAllen.
McMillan, J. B. F., Edinburg.
Miller, Jas. A., McAllen.
Neal, W. S., Mercedes.
Osborn, F. E., McAllen.
Schelaben, H. O., Edinburg.
Solis, C., Riogrande.
Stephens, J. P., Welasco.
Utley, R. E. (Pres.), Mercedes.
Webb, J. G., Mercedes.
White, G. E., San Juan.
White, H. D., Monterey, Mexico.
Whigham, J. G., Donna.
Whigham, W. E., Donna.
Woodall, W. B., Hidalgo.

KLEBERG COUNTY MEDICAL SOCIETY.

Allison, Hendery, Kingsvile.
Bartlett, Glenn, Kingsville.
Campbell, I. N., Kingsville.
Guajardo, Eusebio, Monterey, Mexico.
Huffman, W. S., Kingsville.
*Robertson, J. J. (Sec.), Kingsville.
White, J. H., Kingsville.
*Yeager, Chas. P. (Pres.), Kingsville.

NUECES COUNTY MEDICAL SOCIETY.

Arnold, E. O., Corpus Christi.
*Barnard, W. C., Corpus Christi.
Blankmeyer, H. H., Aransas Pass.
Carruth, W. E., Corpus Christi.
Carter, N. D., Robstown.
Cooley, W. H., Corpus Christi.
Davisson, A. W. (Sec.), Corpus Christi.
Dodge, S. T., Corpus Christi.
Giles, H. R., Corpus Christi.
Grant, J. H., Corpus Christi.
Halstead, F. R., Corpus Christi.
Harthill, E. A., Corpus Christi.
Heaney, Harry, Corpus Christi.
*Kaffie, L., Corpus Christi.
Letzerich, Alfred M., Corpus Christi.
*Mathis, E., Corpus Christi.
Morgan, Jno. B., Bishop.
Nast, Jerome, Corpus Christi.
*Painter, F. U., Corpus Christi.
Passmore, B. H. (Pres.), Corpus Christi.
Redmond, Henry, Corpus Christi.
Thompson, J. M., Robstown.
Watson, C. O., Corpus Christi.
Wendelken, Chas., Robstown.
Williams, M. L., Robstown.
Wills, W. E., Corpus Christi.
White, A. H., Corpus Christi.

SAN PATRICIO-ARANSAS-REFUGIO COUNTY MEDICAL SOCIETY.

Dodson, W. M., Woodsboro.
Elkins, H. T., Sinton.
Fultz, Hugh, Tivoli.
*Glover, G. E., Refugio.
*Hightower, A. T., Odom.
Noble, Walter (Sec.), Aransas Pass.
Vermillion, J. W., Sinton.
*Worley, Preston (Pres.), Sinton.

WEBB COUNTY MEDICAL SOCIETY.

Austin, H. M., Laredo.
Badillo, Jesus C., Mexico.
Crawford, Jas. L. (Sec.), Laredo.
Easton, Ed. R., Laredo.
Graham, Stephen H., Laredo.
Gongora, Felix G., Laredo.
Hall, Horace C., Laredo.
Halsell, John T., Laredo.
Hamilton, H. J., Laredo.
King, Nat, Laredo.
Leal, Manuel, Laredo.
Lightner, O. N., Laredo.
Lowry, W. E. (Pres.), Laredo.
Perkins, M. J., Laredo.
Sauvignet, E. H., Laredo.
Sherman, J. W., Mirando City.
Simpson, Jas. A., Laredo.
Stetson, Thos., Hebbronville.
Wentz, G. W., Mirando City.
White, A. J., Laredo.
*Wilcox, A. W., Laredo.

SEVENTH OR AUSTIN DISTRICT.

Dr. Joe Gilbert, Austin, Councilor.

BASTROP COUNTY MEDICAL SOCIETY.

Campbell, W. E., Elgin.
Chapman, P., Smithville.
*Combs, H. B., Bastrop.
Dawson, I. J., Bastrop.
Harris, N. B., Red Rock.
*Jones, Geo. M., Smithville.
*King, G. T., Elgin.
Kraulik, F. J., Smithville.
*Nofsinger, I. B., Elgin.
*Otken, C. H. (Pres.), Paige.
Powell, J. H. E., Smithville.
Southern, G. W., McDade.
*Taylor, T. B. (Sec.), Bastrop.
Wood, W. E., Elgin.

CALDWELL COUNTY MEDICAL SOCIETY.

*Alexander, Keeton, McMahan.
Benbow, E. A. (Pres.), Luling.
Burks, J. M., Dale.
Coopwood, T. B., Lockhart.
Francis, S. J., Luling.
Henry, H. B. (Sec.), Luling.
Hewlett, L. L., Lockhart.
Luckett, F. C., Fentress.
Morgan, M. W., Lockhart.
Nichols, Clay, Luling.
Nichols, Cranz, Maxwell.
*O'Banion, W. H., Lockhart.
Pitts, M. W., Luling.
*Ross, A. A., Lockhart.
Smith, Edgar, Lockhart.
Watkins, J. M., Luling.
Williamson, D. B., Mendoza.

HAYS COUNTY MEDICAL SOCIETY.

DeSteigner, J. R., San Marcos.
Edwards, L. L., San Marcos.
Kinney, T., San Marcos.
Lee, L. L., San Marcos.
Roberts, J. T., San Marcos.
Shaver, P. J., San Marcos.
Van Ness, J. M., San Marcos.
Williams, M. C., San Marcos.
Williams, W. C., San Marcos.

LEE COUNTY MEDICAL SOCIETY.

Connor, A. C., Lexington.
Hertel, H. G., Giddings.
*Johnson, J. M., Giddings.
Loose, T. C., Dime Box.
Mayfield, I. N. (Pres.), Giddings.
Shaffer, Claud, Lexington.
*York, W. E. (Sec.), Giddings.

LLANO COUNTY MEDICAL SOCIETY.

Fowler, W. Y., Llano.
Gray, G. L., Llano.
Huff, Oscar (Sec.), Castell.
Selman, H. S. (Pres.), Llano.

SAN SABA COUNTY MEDICAL SOCIETY.

Behrns, C. L. (Sec.), Cherokee.
Bickham, Wm. S. (Pres.), San Saba.
*Nelson, A. D., Richland Springs.
Sanderson, W. S., San Saba.
*Stone, I. O., San Saba.

TRAVIS COUNTY MEDICAL SOCIETY.

*Bennett, T. J., Austin.
*Beverly, A. F., Austin.
Black, C. C., Austin.
Black, W. B., Austin.
*Boerner, M. H., Austin.
Bradfield, J. W., Austin.
Brownlee, C. H., Austin.
Carrington, H. D., Pflugerville.
Clark, S. J., Austin.
*Cloud, Ralph E., Austin.
Currie, R. T., Manchaca.
Decherd, Geo. M., Austin.
Edens, Lee, Austin.
Gates, Chas. S., Austin.
Gibson, J. W., Austin.
*Gilbert, Joe, Austin.
*Gilbert, G. H., Austin.
*Goddard, C. W. (Pres.), Austin.
Graham, G. M., Austin.
Granberry, H. B., Austin.
Gregg, F. C., Austin.
Gullette, J. F., Austin.
Haigler, Sam, Austin.
Harper, Henry W., Austin.
Harper, W. A., Austin.
*Hilgartner, H. L., Austin.
Hill, Homer, Austin.
*Holtzclaw, W. E., Buda.
Howze, J. E., Austin.
Hudson, R. B., La Feria.
*Hudson, S. E., Austin.
Jackson, N. R., Manor.
Jones, Ben F., Austin.
Key, Sam N., Austin.
Kirk, Louis H., Austin.
Kreisle, M. F., Austin.
Kreuger, E., Austin.
Kuhn, August, Pflugerville.
Lauderdale, C., Buda.
Lenz, Rudolph, Austin.
*Lightfoot, W. D., Austin.
Loving, J. M., Austin.
*Martin, Z. T. (Sec.), Austin.
Matthews, C. A., Austin.
Maxwell, F. A., Austin.
Maxwell, T. O., Austin.
Murray, R. V., Austin.
McCaleb, W. E., Austin.
McLaughlin, F. P., Austin.
McLaughlin, J. W., Austin.
Nichols, J. R., Austin.
Pettway, T. R., Austin.
Preston, John, Austin.
*Richardson, Dalton, Austin.
Schwab, E. H., Austin.
Scott, Z. T., Austin.
Shuford, F. B., Austin.
*Smartt, M. P., Austin.
Steiner, Ralph, Austin.
Suehs, P. E., Austin.
Shipp, R. W., Austin.
Thomas, J. C., Austin.
Watt, W. E., Austin.
Watt, W. N., Austin.
Weller, Clarence, Austin.
Weller, O. R., Austin.
Wickline, R. M., Austin.
Wilhite, J. T., Austin.
Woolsey, Sam A., Austin.
Wooten, Goodall, Austin.
Wooten, Jos. S., Austin.

WILLIAMSON COUNTY MEDICAL SOCIETY.

Atkinson, O. B., Florence.
Atkinson, W. H., Florence.
Beckman, A., Bartlett.
*Bledsoe, R. E., Taylor.
*Collier, J. I., Taylor.
*Crawford, C. H., Jarrell.
Doak, Ed, Taylor.
Edens, H. L., Bertram.
*Flinn, J. F., Hutto.
*Foster, C. C., Granger.
Fowler, W. D., Liberty Hill.
Gatlin, E. N., Kingsbury.
Gregg, D. B., Round Rock.
*Harrell, T. M., Corpus Christi.
Hazelwood, W. R., Leander.
Helms, W. L., Taylor.
Hopkins, Y. F., Taylor.
Howell, A., Burnet.
*Kirkpatrick, B. A., Thrall.
Kirkpatrick, S. B., Thrall.
Kuehne, Henry, Coupland.
Martin, J. R., Georgetown.
Martin, S. S., Georgetown.
Martin, Walter, Georgetown.
Mikeska, E. F., Taylor.
Moses, W. H., Georgetown.
Mussil, A. C., Granger.
Nowlin, A., Liberty Hill.
Pettus, W. G. (Sec.), Georgetown.
Randolph, V. P., Post City.
Robinson, J. D., Florence.
Ross, G. D., Liberty Hill.
Schultz, W. M., Georgetown.
Sam, L. C., Taylor.
Scott, H. A., Hutto.
Sharp, M. R. (Pres.), Granger.
Stevens, G. W., Leander.
*Stromberg, E. W., Taylor.
Thomas, E. M., Georgetown.
*Vaughan, J. H., Taylor.
Vaughan, T. D., Bertram.
Webber, W. G., Round Rock.
Wedemeyer, G. A., Taylor.
Wedemeyer, W. C., Walburg.
Zorns, W. S., Taylor.

EIGHTH OR DEWITT DISTRICT.

Dr. O. S. McMullen, Victoria, Councilor.

COLORADO COUNTY MEDICAL SOCIETY.

Cook, C. G., Weimar.
Duve, C. E., Weimar.
Fehrenkamp, B. F., New Ulm.
Forrest, B. F., Eagle Lake.
Gordon, E. C. (Pres.), Columbus.
Harrison, R. H., Alleyton.
McLeary, S. B., Columbus.
McLellan, R. H., Eagle Lake.
*Payne, J. H., Columbus.
*Peters, Leo J., Schulenburg.
Potthast, A. H., Weimar.
Wozencraft, L. C., Eagle Lake.
Youens, W. G. (Sec.), Columbus.

DEWITT COUNTY MEDICAL SOCIETY.

Allen, Geo. W., Jr., Yorktown.
Arnecke, C. A. H., Arneckeville.
Beckham, Albert, Yoakum.
Blackwell, F. D., Hochheim.
Boothe, S. P., Cuero.
Brown, Harry H., Sr., Yoakum.
Brown, Harry H., Jr. (Pres.), Yoakum.
Burns, Jno. W., Cuero.
Cross, Geo. W., Yorktown.
Dobbs, J. C., Cuero.
*Duckworth, G. M., San Antonio.
Eckhardt, Herman C., Yorktown.
Frobese, J. R., Cuero.
Gillette, Wm. R., Cuero.
Hale, Jesse W., Yoakum.
Kahn, Silvian D., Nordheim.
Lackey, J. M., Cuero.
Milner, R. M., Yoakum.
Nowierski, B. J. (Sec.), Yorktown.
Nowierski, L. W., Yorktown.
O'Quinn, C. L., Weesatche.
Paine, W. H., Cuero.
Pridgen, J. E., Thomaston.
Putman, Eli H., Cuero.
Sale, Walter W., Cuero.

FAYETTE COUNTY MEDICAL SOCIETY.

Guenther, F. J., La Grange.
Hoch, Chas. M. (Sec.), La Grange.
Knolle, A. P., Ellinger.
Knolle, R. H., La Grange.
Marecic, F. J., Flatonia.
*Miller, Arthur, Carmine.
Smith, J. W., Sample.
*Young, F. E. (Pres.), La Grange.

LAVACA COUNTY MEDICAL SOCIETY.

Dufner, C. T., Hallettsville.
Fuller, A. L., Shiner.
Gray, J. D., Yoakum.
Guenther, J. G. (Pres.), Moulton.
*Jaeggli, Sam (Sec.), Moulton.
Kopecky, C. L., Yoakum.
Kotzebue, A. M., Moulton.
Lay, J. R., Houston.
*Marek, E. H., Yoakum.
Renger, Paul, Hallettsville.
*Shropshire, W., Yoakum.
*Schulze, G., Shiner.
Wagner, F. M., Shiner.
Weiss, J., Hallettsville.
Youngkin, J. S., Yoakum.

MATAGORDA COUNTY MEDICAL SOCIETY.

Bouldin, W. W., Bay City.
Dimmitt, F. W., Palacios.
Foote, S. A. (Sec.), Bay City.
Loos, H. H., Bay City.
*Morton, A. S., Bay City.
Phillips, B. A. (Pres.), Matagorda.
Reed, J. W., Bay City.
Scott, E. E., Bay City.
Simons, J. E., Bay City.
Wagner, J. R., Palacios.

VICTORIA-CALHOUN-GOLIAD COUNTY MEDICAL SOCIETY.

*DeTar, W. T., Sr., Victoria.
*DeTar, W. T., Jr., Victoria.
*Fox, G. C., Tell.
*Gibson, A. D., Port Lavaca.
Grace, T. W., Port Lavaca.
Hicks, J. O., Victoria.
Hopkins, J. V., Victoria.
Kirkland, L. W. (Pres.), Goliad.
*Lander, J. H., Victoria.
Lander, R. G., Goliad.
*McMullen, O. S., Victoria.
Roemer, F. J., Port Lavaca.
Rush, J. W., Placedo.
Ryon, O. H., Seadrift.
Shields, F. B., Victoria.
Smith, J. L., Victoria.
Stewart, O. R., Victoria.
Ward, R. W. (Sec.), Victoria.
Ward, W. L., Victoria.

WHARTON-JACKSON COUNTY MEDICAL SOCIETY.

Andrews, J. M., Wharton.
Cloud, W. O., Iago.
Davidson, G. L., Wharton.
Davidson, T. L., Wharton.
Halamicek, J. A., El Campo.
Johns, A. E., Glen Flora.
*Jones, C. F., East Barnard.
Lancaster, W. H., Ganado.
*Lincecum, A. L., Fort Worth.
Oldham, J. D., El Campo.
Redwine, D. P., El Campo.
Reeves, H. V. (Sec.), El Campo.
*Reynolds, H. C. (Pres.), Louise.
Valls, B. R., Wharton.
Whitfield, W. E., Ganado.

NINTH OR SOUTHERN DISTRICT.
Dr. W. B. Thorning, Houston, Councilor.

AUSTIN COUNTY MEDICAL SOCIETY.

*Brown, Walter T., Wallis.
Hill, Thos. Gustus, Houston.
Hover, Frank W., Sealy.
Knolle, B. E. (Pres.), Industry.
Knolle, Otto J., New Ulm.
Knolle, Roger E., Industry.
Kroulik, John, Bellville.
Kubricht, Theo., Wallis.
Neely, Jubol A., Bellville.
Roensch, Herbert E., Kenney.
Schramm, Chas. J., Fayetteville.
Steck, Otto E. (Sec.), Bellville.
Trenckmann, Otto A., Bellville.
Waldrop, Jno. W., Sealy.

BRAZORIA COUNTY MEDICAL SOCIETY.

Carlton, B. H., Freeport.
*Hawkins, J. R., Freeport.
Maxey, S. B., Angleton.
Pollard, A. J., Alvin.
Shafer, C. L., Alvin.
Shaw, W. N., Freeport.
Weems, M. A. (Pres.), Columbia.
Winn, F. R., Alvin.
Wyche, G. G., Robstown.

BURLESON COUNTY MEDICAL SOCIETY.

Aiken, A., Chriesman.
Goodnight, T. L., Caldwell.
Krueger, A. G., Caldwell.
McLean, B. O. (Sec.), Somerville.
Richardson, W. P., Somerville.
Stork, E. W., Somerville.

FORT BEND COUNTY MEDICAL SOCIETY.

Blackwell, W. J. L., Sugarland.
Boyle, J. W., Jr. (Sec.), Richmond.
*Deatherage, S. G., Sugarland.
Johnson, J. C. (Pres.), Richmond.
*Neighbor, A. G., Damon.
Payne, S. N., Fulshear.
Weeks, J. W., Rosenberg.
Yates, J. S., Rosenberg.

GALVESTON COUNTY MEDICAL SOCIETY.

*Andronis, Nick, Galveston.
Aves, F. W., Galveston.
Azar, J. A., Galveston.
Chapman, L. E., Galveston.
Cone, R. E., Galveston.
Cooke, H. P., Galveston.
Cooke, W. R., Galveston.
*Crutchfield, E. D., Galveston.
Dallas, L. M., League City.
Danforth, L. M., Texas City.
Davidson, J. S., Galveston.
Delaney, Geo. E., Galveston.
Dietsel, M. E., Galvetson.
Dimmitt, Frank, Galveston.
Fahring, G. H., Anahuac.
Fisher, W. C., Galveston.
*Fisher, W. C., Jr., Galveston.
Flautt, J. A., Galveston.
*Flynn, J. G., Galveston.
Fowler, F., Galveston.
Gammon, Wm., Galveston.
*Graves, M. L., Galveston.
Haggard, C. L., Galveston.
Harris, Lawrence, Galveston.
Harris, Titus H. (Sec.), Galveston.
Hartmann, Henry, Galveston.
Hoecker, Wade L., Galveston.
Huddleston, W. E., Galveston.
*Jinkins, J. L., Galveston.
Jinkins, W. J., Galveston.
Jones, J. S., Galveston.
Keiller, Violet, Galveston.
*Keiller, Wm., Galveston.
Kleberg, Walter, Galveston.
*Knight, H. O., Galveston.
Krueger, F. R., Galveston.
Lechenger, G. C., Galveston.
Lee, Geo. H., Galveston.
Lee, Geo. T., Galveston.
McLarty, E. S., Galveston.
Morgan, Geo. L., Anahuac.
*Morris, Seth M., Galveston.
Patton, O., League City.
Peters, O. K., Galveston.
Randall, Edward, Galveston.
Randall, Edward, Jr. (Pres.), Galveston.
Reading, Boyd, Galveston.
*Rice, Lee, Galveston.
Robinson, H. R., Galveston.
Sappington, H. O., Galveston.
Schilling, John G., Goose Creek.
*Singleton, A. O., Galveston.
Spiller, W. F., Galveston.
*Starley, W. F., Jr., Galveston.
*Stephens, E. M. F., Galveston.
*Stone, C. T., Galveston.
Sykes, Geo., Galveston.
*Thompson, J. E., Galveston.
Tucker, J. P., Galveston.
Wall, Dick, Galveston.
Weimers, W. J. C., Galveston.

GRIMES COUNTY MEDICAL SOCIETY.

Emory, S. J. (Pres.), Navasota.
Greenwood, W. W., Navasota.
Harris, E. A. (Sec.), Navasota.
Harris, G. C., Courtney.
Harris, R. D., Navasota.
McAlpine, A. D., Navasota.
Parker, M. E., Navasota.
Peeples, D. L., Navasota.
Quinn, W. J., Iola.
Sanders, G. C., Richards.
Smith, J. E., Bedias.
*Wilson, W. T., Navasota.

HARRIS COUNTY MEDICAL SOCIETY.

*Agnew, J. H., Houston.
Allen, L., Houston.
Allen, N. N., Houston.
Applebe, E. W., Houston.
Archer, Palmer, Houston.
Armstrong, E. M., Houston.
*Arnold, E. M., Houston.
Aves, C. M., Houston.
Aydam, C. W., Houston.
Barnes, F. L., Houston.
Bartlett, H. L., Houston.
Bennett, W. H., Humble.
*Bertner, E. W., Houston.
*Bost, J. R., Houston.
Bourland, F. M., Houston.
*Braden, A. H., Houston.
Bradley, R. L., Houston.
Brenner, M. L., Houston.
Brokaw, C. P., Houston.
Bruhl, C. E., Houston.
Brumby, W. E., Houston.
Bryan, W. J., Houston.
*Calaway, F. O. (Sec.), Houston.
Campbell, W. D., Goose Creek.
Clark, J. E., Houston.
Clark, W. A., Houston.
*Cody, C. C. (Pres.), Houston.
Compere, T. H., Houston.
*Cook, Edward, Houston.
Coop, B. F., Houston.
*Coulter, W. W., Houston.
Cox, R. L., Houston.
Creviston, C. D., Houston.
Cronin, P. H., Houston.
Cruse, P. R., Houston.
Daily, L., Houston.
Daily, R. K., Houston.
*Daniels, J. E., Houston.
Dawes, R., Houston.
Dawson, J. W., Houston.
Denman, P. R., Houston.
DeWalt, D. C., Houston.
Dodge, W. E., New York.
Dickson, T. A., Houston.
*DuBose, J. B., Humble.
Duckett, J. D., Houston.
Dudley, N. L., Goose Creek.
Duncan, Clara K., Houston.
Dunnam, T. E., Houston.
Durham, W. E., Houston.
Eckhart, Wm. R., Houston.
Eidman, F. G., Houston.
Ellis, B. V., Houston.
Ellis, J. C., Houston.
Ellis, L. M., Houston.
Englehart, H. A., Houston.
Erhardt, Wm., Westfield.
Feagin, Horace C., Houston.
*Flickwir, A. H., Houston.
Foster, J. B., Houston.
*Foster, Jno. H., Houston.
Florence, J. H., Houston.
Freundlich, Thomas, Houston.
Gantt, M. A., Houston.
Gilliam, Hiram, Houston.
Glover, F. Scott, Houston.
*Goar, E. L., Houston.
Gooch, F. B., Houston.
Graves, J. H., Houston.
Gray, E. N., Houston.
Green, C. C., Houston.
*Greenwood, James, Houston.
*Greer, Alvis E., Houston.
*Greer, David, Houston.
Gerson, G. R., Houston.
*Griffith, C. W., La Porte.
Grimes, G. D., Houston.
*Haden, H. C., Houston.
Haley, Wm. A., Houtson.
Hamilton, Gavin, Houston.
Handley, L. L., Houston.
Hanna, L. C., Houston.
Hargrove, R. M., Houston.
Harris, C. P., Houston.
Harris, J. E., Houston.
Harris, T. F., Houston.
Harrison, R. H., Houston.
Heard, Allen G., Houston.
Heard, Ethel L., Houston.
*Hill, Jas. A., Houston.
Hill, J. H., Houston.
Hoeflich, C. W., Houston.
Hodges, J. E., Houston.
*Holley, A. S., Houston.
*Howard, A. P., Houston.
Iiams, F. J., Houston.
Israel, Norma E., Houston.
*Israel, Sidney, Houston.
James, A. J., Houston.
Johnson, J. E., Houston.
Johnson, H. W., Houston.
*Johnston, R. A., Houston.
Kendall, D. H., Houston.
Kennedy, E. J., Houston.
Kenner, E. B., Houston.
Kilgore, F. H., Houston.
King, F. B., Houston.
*Kirkham, H. L. D., Houston.
*Knox, R. W., Houston.
Krause, A., Houston.
Kuebler, L. W., Houston.
Kyle, Allen J., Houston.
Lancaster, E. H., Houston.
*Lapat, Wm., Houston.
Larendon, G. W., Houston.
Ledbetter, P. V., Houston.
Legnard, J. B., Houston.
*Levy, Moise D., Houston.
Ligon, J. G., Houston.
Lister, S. M., Houston.
Logue, Lyle J., Houston.
Looper, S. A., Houston.
Ludeau, J. E., Houston.
Lummis, F. R., Houston.
Maresh, H. R., Houston.
Maresh, R. E., Houston.
Mathews, J. F., Houston.
*McDeed, W. G., Houston.
McKee, J. W. Houston.
McMeans, R. H., Houston.
McMurry, Allen, Houston.
Meyers, Claud D., Houston.
*Michael, J. C., Houston.
Miller, A. L., Houston.
Miller, K. W., Houston.
Mitchner, J. M., Mexia.
*Moore, Jno. T., Houston.
Moore, S. H., Houston.
Morris, R. T., Houston.
Morrison, H. K., Houston.
Motheral, J. D., Houston.
Murray, E. C., Houston.
Mynatt, A. J., Houston.
Neal, T. N., Houston.
Noark, Henry, Fairbanks.
Norsworthy, O. L., Houston.
*O'Banion, M. L., Houston.
O'Farrell, J. M., Houston.
Oliver, J. T., Houston.
Parker, G. D., Houston.
Parkhill, F. G., Houston.
Parks, J. H., Houston.
Patterson, C. U., Houston.
Pawelek, I. L., Houston.
Pawelek, Louis G., Houston.
Payne, C. F., Dayton.
Priester, W. G., Houston.
Pritchett, I. E., Houston.
Pulliam, S. T., Houston.
*Ralston, Wallace, Houston.
Ramsay, W. E., Houston.
Ramsdell, R. L., Houston.
Raney, L. W., Houston.
Read, H. K., Houston.
*Red, S. C., Houston.
Robbins, E. F., Houston.
*Robinson, G. J., Houston.
*Rudnick, Sarah, Houston.
Sauerman, W. O., Houston.
*Scardino, P. H., Houston.
Schoepfer, R. F., Houston.
Schnell, J. H., Houston.
Scott, J. W., Houston.

Scott, R. T., Houston.
Shearer, T. W., Houston.
Short, J. L. Houston.
Sinclair, T. A., Houston.
Sloane, P. A., Houston.
Smith, B. F., Houston.
Smith, Clifford T., Houston.
Smith, P. L., Houston.
Spiller, J. B., Houston.
Spivak, L. J., Houston.
Spurlock, C. H., Houston.
Stewart, J. M., Katy.
Stokes, M. B., Houston.
Storey, H. E., Houston.
Strozier, Wm., Houston.
Talley, A. T., Houston.
Taylor, J. L., Houston.
Taylor, M. J., Houston.
Thoma, Earl W., Houston.
Thorn, J. W., Houston.
*Thorning, W. B., Houston.
Tribble, J. M., Houston.
Turner, B. W., Houston.
*Turner, J. H., Houston.
Tusa, T. S., Houston.
Vanzant, B. T., Houston.
Wells, J. M., Houston.
White, A. E., Houston.
White, A. W., Houston.
White, J. L., Houston.
Wier, W. M., Houston.
Williams, W. O., Houston.
*Wilson, R. D., Houston.
*Wood, Martha A., Houston.
*Woolley, T. O., Houston.
Wright, Elva, Houston.
Wright, Ernst, Houston.
Young, Carl B., Houston.

MADISON COUNTY MEDICAL SOCIETY.

Corley, L., Midway.
Day, G. P. (Sec.), Madisonville.
Gray, J. F., Midway.
*Morris, Jas. E. (Pres.), Madisonville.
McKay, Jas. A., Madisonville.
Ross, O. W., Madisonville.
Zulch, J., North Zulch.

MONTGOMERY COUNTY MEDICAL SOCIETY.

Boyd, J. M., Pasadena.
Burney, J. E., Fostoria.
*Bybee, J. A., Conroe.
*Covington, C. M. (Pres.), Montgomery.
Hooper, W. N., Conroe.
*Ingrum, W. P. (Sec.), Conroe.
*Miller, S. A., Dallas.
Morris, D. W., Conroe.
Spiller, Chas., Willis.
Tinsley, O. M., Conroe.
Wright, Ray B., Willis.
*Ware, J. M., Magnolia.
Young, F. A., Montgomery.

POLK COUNTY MEDICAL SOCIETY.

Autry, S. L., Trinity.
Bevil, Jack, Hull.
*Bergman, H., Livingston.
Clements, P. C., Benford.
Cochran, E. G., Gladstell.
*Handley, B. (Sec.), Corrigan.
Hubert, J. M., Cleveland.
Lane, R. B., Livingston.
*Marsh, B. C., Livingston.
McCardle, W. K., Livingston.
*McCardle, D., Cold Springs.
Pullen, W. G. (Pres.), Corrigan.
Robinson, C. H., Cleveland.
Williams, M., Onalaska.

WALKER COUNTY MEDICAL SOCIETY.

Angier, Eugene L., Huntsville.
Bush, L. H., Huntsville.
Calloway, H. A., Oakhurst.
Crothers, V. M., San Augustine.
Curtis, M. E., Huntsville.
Fowler, Wm. E. (Pres.), Huntsville.
Gustine, N. W., Alcedo.
Martin, J. Ross, Huntsville.
Robertson, H. S., Elmina.
Tharp, R. A., Shiro.
Thomason, J. W. (Sec.), Huntsville.

WALLER COUNTY MEDICAL SOCIETY.

Hill, G. E., Waller.
Jones, M. A., Hempstead.
*LeGrand, C. W. (Pres.), Hempstead.
Mahan, L. L. (Sec.), Hempstead.
Orman, McDonald, Hempstead.

WASHINGTON COUNTY MEDICAL SOCIETY.

*Becker, Arthur E. (Sec.), Brenham.
Campbell, William R., Chapel Hill.
Hasskarl, Robert A., Brenham.
*Hasskarl, Walter F., Brenham.
Hodde, Fred H., Burton.
Hodde, Louis F., Burton.
Knolle, Edmond R., Brenham.
*Knolle, Kinch C., Brenham.
*Knolle, Waldo A., Brenham.
Knolle, W. L. F., Washington.
*Kusch, Luther, Gay Hill.
*Lenert, Robert H., Brenham.
Moore, Oliver S., Burton.
Nicholson, Richard E., Brenham.
Schoenvogel, Otto F., Brenham.
Williamson, John R. (Pres.), Brenham.

TENTH OR SOUTHEASTERN DISTRICT.

Dr. D. S. Wier, Beaumont, Councilor.

ANGELINA COUNTY MEDICAL SOCIETY.

Alexander, C. E., St. Louis, Mo.
*Beazley, W. H., Austin.
Bledsoe, R. B., Lufkin.
Cannon, R. T., Lufkin.
Childers, D. M. (Sec.), Lufkin.
Clark, E. T., Keltys.
Denman, L. H., Lufkin.
Dillen, O. M., Lufkin.
Dunn, W. W., Lufkin.
Hawkins, J. W., Lufkin.
Jackson, J. M., Lufkin.
Mathews, R. L., Lufkin.
Smith, R. W., Etoile.
*Sweatland, A. E., Lufkin.
Taylor, T. A., Lufkin.
Tenney, L. P., Lufkin.
Treadwell, W. B., Lufkin.
Van Nuys, J. C. (Pres.), Lufkin.

JASPER-NEWTON COUNTY MEDICAL SOCIETY.

Blow, F. T., Buna.
Fortenberry, J. C., Evadale.
Hardy, Hugh, Jasper.
McCreight, W. F. (Sec.), Kirbyville.
Morgan, A. D., Spurger.
Ogden, T. R., Jasper.
Ogden, U. B., Kirbyville.
Powell, C. N., Deweyville.
Richardson, A. J., Jasper.
Sweeney, B. A. (Pres.), Newton.
Trotti, W. E., Jasper.

JEFFERSON COUNTY MEDICAL SOCIETY.

Alexander, H. E., Beaumont.
Autry, A. R., Port Arthur.
Bailey, Allen A., Beaumont.
Bailiff, H. C., Beaumont.
Barkley, A. P., Wharton.
Barr, H. A., Beaumont.
Bevil, John R., Beaumont.
Bevil, H. G., Silsbee.
Bledsoe, J. A., Port Arthur.
*Bledsoe, M. F., Port Arthur.
*Blevins, J. D., Beaumont.
Brandeau, W. H., Beaumont.
*Brown, W. D., Beaumont.
Bussey, N. H., Port Arthur.
Chaisson, J. L., Port Neches.
Cobb, C. A., Beaumont.
Cole, C. A., Winnie.
Crumpler, W. E., Port Arthur.
Cruse, J. B., Beaumont.
Cunningham, W. W., Beaumont.
Darby, T. O., Sour Lake.
Dubose, A. T., Village Mills.
Fears, T. Alvin (Sec.), Beaumont.
Ferguson, E. C., Beaumont.
Garth, J. W., Beaumont.
Gibson, J. A., Port Arthur.
Gober, J. M., Beaumont.
Goldstein, Louis, Beaumont.
Greenburg, P. B., Beaumont.
Grimes, Ivison, Voth.
Grimes, Jasper, Port Arthur.
Harlan, H. D., Beaumont.
*Hart, F. B., Sour Lake.
*Hazlip, J. N., Nederland.
Hodges, O. S., Beaumont.
Holland. P. B., Beaumont.
Jones, W. H., Burkburnett.
Jordan, S. N., Sour Lake.
Kolb, A. C., Port Arthur.
Laidacker, N. E., China.
Ledbetter, L. H., Beaumont.
Lyons, S. B., Beaumont.
Mabry, Frank D., Port Arthur.
Mann, D. A., Beaumont.
Mann, James S., Port Arthur.
Martin, F. S., Beaumont.
Maxwell, H. C., Mexia.
McAlister, Finnis E., Weirgate.
*McMicken, Dru, Beaumont.
Middleton, W. C., Beaumont.
Mills, E. D., Beaumont.
Orrill, Ray, Port Arthur.
Pate, S. J., Beaumont.
Pedigo, H. B., Beaumont.
Penman, Clarence E., Beaumont.
Powell, L. C., Beaumont.
Reagan, J. H., Beaumont.
Record, Joe, Beaumont.
Reed, G. H., Beaumont.
Reed, Pat, Port Arthur.
Roark, Alfred W., Saratoga.
Sappington, T. B., Port Arthur.
Selman, T. B., Silsbee.
Serafino, L. C., Beaumont.
Smith, J. G., Port Arthur.
Swearingen, M. (Pres.), Port Arthur.
Swonger, J. B., Beaumont.
*Tackaberry, A. L. W., Houston.
*Tadlock, J. T., Dayton.
*Tatum, W. C., Beaumont.
Taliaferro, W. F., Beaumont.
*Thomson, W. F., Beaumont.
Vaughan, B. H., Port Arthur.
Vaughan, E. W., Port Arthur.
Wall, S. D., Port Arthur.
White, C. M., Beaumont.
*Wier, D. S., Beaumont.
Williams, Will T., Beaumont.
Winters, W. S., Sr., Port Arthur.
Winters, W. S., Jr., Port Arthur.
Winters, H. A., Port Arthur.
Wood, B. W., Port Arthur.
Young, T. W., Port Arthur.

NACOGDOCHES COUNTY MEDICAL SOCIETY.

Barham, Geo. S., Nacogdoches.
Blackwell, Thos. J. (Sec.), Nacogdoches.
Castleberry, Wm. T., Nacogdoches.
Ford, Francis C. (Pres.), Nacogdoches.
Howard, W. C., Appleby.
Lockey, Robt. P., Nacogdoches.
Nelson, Albert A., Nacogdoches.
Payne, C. M., Nacogdoches.
Pennington, T. J., Nacogdoches.
P'Pool, Mathew W., Nacogdoches.
Tucker, F. R., Nacogdoches.
Samuels, Geo. E., Appleby.
Smith, W. I. M., Nacogdoches.

ORANGE COUNTY MEDICAL SOCIETY.

*Barr, R. E. (Pres.), Orange.
*Coyle, W. P., Orange.
Dameron, J. H., Orange.
*Lawson, F. W. (Sec.), Orange.
Mitchell, A. L., Orange.
Pearce, A. G., Orange.
Phillips, C. E., Orange.
Reeves, J. E., Orange.
Seastrunk, J. C., Orange.
Sholars, S. W., Orange.
Slay, I. J., Texla.
Wilhite, G. W., Orange.
Yates, J. D., Orange.

SABINE COUNTY MEDICAL SOCIETY.

Arnold, W. T. (Pres.), Hemphill.
*Cousins, R. D. (Sec.), Pineland.
McGown, M. W. (deceased), Hemphill.
Morgan, T. B., Bronson.
Smith, C. F., Hemphill.
Smith, E. G., Hemphill.

SHELBY COUNTY MEDICAL SOCIETY.

Bryan, Clarence O., Center.
Calhoun, T. G. (Pres.), Teneha.
Carroll, E. S., Center.
Carter, C. E., Teneha.
Foster, E. N., Haslam.
Hurst, T. L., Center.
Sims, J. B., Center.
Tinkle, L. T., Timpson.
Warren, Wm. H. (Sec.), Center.
Warren, Walter M., Center.
*Whitesides, T. F., Timpson.
Windham, J. H., Shelbyville.
Windham, W. C., Center.

ELEVENTH OR EASTERN DISTRICT.
Dr. R. H. McLeod, Palestine, Councilor.

ANDERSON COUNTY MEDICAL SOCIETY.

Austin, M. L., Montalba.
*Card, C. F., Palestine.
Converse, E. V., Palestine.
Davis, W. E., Elkhart.
Dunn, R. M., Palestine.
Funderburk, W. O. (Pres.), Elkhart.
Hathcock, A. L., Palestine.
King, M. A., Frankston.
Link, E. W., Palestine.
Link, H. R., Palestine.
*McLeod, R. H. (Sec.), Palestine.
*Parsons, E. B., Palestine.
*Rose, E. L., Palestine.
Scarbrough, E. H., Brushy Creek.
*Small, G. D., Palestine.
*Speegle, A. A., Palestine.

CHEROKEE COUNTY MEDICAL SOCIETY.

Barnett, G. W., Gallatin.
Bone, J. N., Jacksonville.
Canon, M. B., Jacksonville.
Cobble, Thos. H. (Sec.), Rusk.
Crawford, J. M., Alto.
DuBose, J. L., Wells.
Ely, J. J., Jacksonville.
*Fuller, F. A., Jacksonville.
Greenwood, J. T., Ponta.
Johnson, J. F., Rusk.
Johnson, W. J., Rusk.
Jones, P. E., Ponta.
Lockhart, J. J., Wells.
Maness, F. G., Rusk.
McClure, M. E., Alto.
McDonald, W. A., Alto.
McDougle, John B., Jacksonville.
Moseley, E. M., Rusk.
*Newburn, C. L., Jacksonville.
Priest, R. C., Rusk.
*Ramsey, J. B., Forest.
Rather, S. S., Jacksonville.
*Sory, W. H., Austin.
Tabb, T. E., Rusk.
*Travis, J. M., Jacksonville.
Travis, R. T. (Pres.), Jacksonville.
Yates, F. P., Rusk.

FREESTONE COUNTY MEDICAL SOCIETY.

Bond, J. W. (Pres.), Donie.
*Davidson, J. D. (Sec.), Teague.
Harrison, W. P., Teague.
Headlee, E. V., Teague.
Lowery, D. L., Teague.
McFadin, W., Fairfield.
Peyton, F. P., Teague.
Sneed, W. N., Fairfield.
*Whiteside, W. A., Kirvin.

HENDERSON COUNTY MEDICAL SOCIETY.

Baugh, J. F., Chandler.
Cockerell, L. L., Eustace.
*Easterling, A. H. (Sec.), Athens.
Fowler, J. A., Malakoff.
Jeter, D. O., Murchison.
Hodge, J. C., Athens.
Hodge, R. H., Athens.
Horton, A. C., Murchison.
LaRue, R. L., Eustace.
Moon, G. F., Chandler.
*Moss, M. M., Brownsboro.
*Owen, D. B., Malakoff.
Price, D., Athens.
*Pulley, L. W. (Pres.), Trinidad.
*Rogers, J. O., Kerens.
Wallace, B. C., Athens.
*Webster, J. K., Athens.

HOUSTON COUNTY MEDICAL SOCIETY.

Barkley, R. L., Kennard.
Barkley, B. R., Ratcliff.
Blount, R. T., Lovelady.
Collins, W. B., Lovelady.
Deal, J. B., Crockett.
Dillard, R. E. (Sec.), Crockett.
Evans, C. W., Crockett.
Latham, W. W., Crockett.
Lipscomb, W. C., Crockett.
McCall, H. L., Ratcliff.
Nelson, J. H., Eliasville.
Sherman, T. M. (Pres.), Kennard.
Stafford, P. H., Grapeland.
Stokes, E. B., Crockett.
Taylor, G. R., Crockett.
Thomas, M. A., Crockett.
Westmoreland, Jas. P., Houston.
Wootters, J. S., Crockett.

LEON COUNTY MEDICAL SOCIETY.

Bing, R. E., Oakwood.
Bell, J. F., Oakwood.
Boggs, E. O., Concord.
Brown, S. M., Keechi.
Carrington, D. C. (Sec.), Marquez.
Carter, C. J., Jr., Oakwood.
Cole, W. A., Normangee.
Hester, J. B., Buffalo.
Hester, Nell, Buffalo.
Lacey, Robt., Buffalo.
Murdock, E. P., Oakwood.
Powell, E. P., Centerville.
Rogers, Joe, Normangee.
Seale, W. H. (Pres.), Marquez.
Smith, W., Oakwood.
Spruiell, Z. J., Jewett.

PANOLA COUNTY MEDICAL SOCIETY.

Anderson, Thos. E. (Sec.), Carthage.
Comer, Chas. C., Carthage.
Copeland, A. G., Gary .
*Daniels, J. A., Carthage.
Hull, C. F. (Pres.), Carthage.
Neal, J. S., Carthage.
*Ross, H. A., Carthage.
Rousseau, J. F., Beckville.
Turner, W. J., Pine Hill.

RUSK COUNTY MEDICAL SOCIETY.

*Birdwell, J. A., Overton.
*Dawson, C. A. (Sec.), Minden.
*Deason, G. A., Garrison.
Deason, T., Mt. Enterprise.
Galloway, A. H., Laneville.
*Page, R. L., Henderson.
Ross, Griff, Mt. Enterprise.
Ross, J. E., Henderson.
Richardson, D. P., Henderson.
*Sadler, J. G. (Pres.), Henderson.
*Shaw, C. A., Pine Hill.
Smith, A. O. L., Henderson.
Spivey, J. H., Henderson.
Watkins, J. E., Henderson.
White, W. P., Henderson.

SMITH COUNTY MEDICAL SOCIETY.

Arthur, B. L., Lindale.
Baldwin, A. P., Tyler.
Bell, B. H., Tyler.
Bell, G. G., Tyler.
Brogan, W. P., Tyler.
*Bryant, B. T., Tyler.
Braly, B. D., Troup.
Bundy, B. T., Tyler.
Callaway, A. N., Tyler.
Christian, J. S., Austin.
*Clark, C. B., Troup.
Clawater, E. W., Tyler.
*Gibson, J. W., Lindale.
Hodges, Will, Tyler.
Hudson, C. L., Tyler.
*Livingston, J. J., Tyler.
Pabst, Oscar C., Tyler.
*Phillips, J. D., Tyler.
Pope, Irvin, Jr., Tyler.
Pope, John H., Tyler.
Rice, E. D. (Pres.), Tyler.
Smith, J. C., Winona.
Smith, L. E., Tyler.
*Vaughn, E. H., Tyler.
Walker, N. G. M., Dallas.
Wisdom, H. H. (Sec.), Tyler.
*Woldert, A., Tyler.

TRINITY COUNTY MEDICAL SOCIETY.

Barnes, Geo. R. (Pres.), Trinity.
*Bradley, C. H. (Sec.), Groveton.
Briscoe, S. M., Trinity.
Divine, I. W., Groveton.
Evans, C. W., Helmic.
Magee, W. J., Groveton.
Murphy, C. S., Groveton.

TWELFTH OR CENTRAL DISTRICT.
Dr. N. D. Buie, Marlin, Councilor.

BELL COUNTY MEDICAL SOCIETY.

Alsup, A. H., Little River.
Ballard, A. E., Belton.
*Barton, R. W., Temple.
Barton, W. H., Temple.
Batte, Tom, Belton.
Blair, C. M., Bartlett.
Boren, E. R., Holland.
Brindley, G. V., Temple.
Brown, P. H., Temple.
*Bunkley, T. F., Temple.
Burns, E. J., Belton.
*Chapman, M. L., Temple.
Chernosky, W. A., Temple.
Crain, A. B., Belton.
Denman, J. A., Bracketville.
Ellis, I. D., Troy.
*Etter, W. F., Rogers.
*Frazier, J. M., Belton.
Gambrell, Wm., Belton.
Giles, R. G., Cleveland, O.
Gober, O. F., Temple.
Gooch, J. M., Temple.
Griffin, I. A., Salado.
*Hamblen, C. H., Holland.
Hudson, Taylor, Belton.
*Harlan, W. J., Bartlett.
Jenkins, J. G., Temple.
*Johnson, J. B. (Sec.), Temple.
*Jordon, D. W., Temple.
*Kimmins, R. L., Temple.
Kirby, F. F., Waco.
*Knight, Lee, Temple.
Lee, B. F., Temple.
*Longmire, V. M., Temple.
*Maloy, E. D., Temple.
Marsh, J. E., Temple.
Mayo, S. L., Belton.
Moon, A. E., Temple.
*McCelvey, J. S., Temple.
*McDavitt, Bertha, Temple.
*McElhannon, M. P., Belton.
*McReynolds, G. S., Temple.
Nichols, C. V., Temple.
Noble, R. W., Temple.
Pittman, J. W., Belton.
*Pollok, L. W. (Pres.), Temple.
*Potter, Claudia, Temple.
Power, C. L., Temple.
Robinson, J. E., Temple.
Root, J. E., Temple.
Scott, A. C., Jr., Temple.
*Scott, A. C., Sr., Temple.
Schwald, N. A., Killeen.
*Sherwood, M. W., Temple.
Stoeltje, E. C., Oenaville.
Smith, W. H., Heidenheimer.
Talley, L. R., Temple.
Watts, S. A., Pendleton.
*Wilson, R. T., Temple.
Wood, D. L., Killeen.
*Woodson, J. M., Temple.

BOSQUE COUNTY MEDICAL SOCIETY.

Blankenship. W. W., Mosheim.
*Burnett, J. H., Kopperl.
Glass, J. T., Clifton.
Jarrett, J. C., Valley Mills.
McNeill, W. T., Valley Mills.
*Murray, J. A., Walnut Springs.
Standefer, Fred W. (Sec.), Valley Mills.

BRAZOS-ROBERTSON COUNTY MEDICAL SOCIETY.

Alexander, S. J., Hearne.
Black, Jno. W. (Sec.), Bryan.
*Brittain, Edgar, Bremond.
Cline, Wm. B., Bryan.
*Connor, C. J., Franklin.
*Cummings, H. W. (Pres.), Hearne.
Curry, T. G., Franklin.
Ehlinger, R. B., College Station.
Gilson, F. J., Calvert.
Gilstrap, W. P., Wheelock.
Goodwin, J. N., Bryan.
Holman, J. C., Franklin.
Lee, Geo. F., Wellborn.
Mondrick, A. L., Bryan.
Oliver, W. H., Bryan.
Parker, W. S., Calvert.
Searcy, C. A., Bryan.
Sims, B. U., Bryan.
Taylor, W. C., Calvert.

COMANCHE COUNTY MEDICAL SOCIETY.

Clemons, I. T., Comanche.
Davenport, O. H., Hasse.
Eargle, J. H., Lampkin.
*Gray, A. J., Comanche.
*Gray, C. W., Comanche.
Hays, P. G., Richland Springs.
Hilley, W. M., Sidney.
*Inzer, H. H., DeLeon.
*Lane, J. O., Comanche.
*Moore, W. M., Sipe Springs.

Ory, C. W. (Sec.), Comanche.
Plemmons, J. T., DeLeon.
*Self, J. E., DeLeon.
Thomas, L. B. (Pres.), Comanche.
Vineyard, A. E., Comanche.
*Westbrook, W. J., Sipe Springs.

CORYELL COUNTY MEDICAL SOCIETY.

Ammons, H. R., Turnersville.
Bailey, R., Gatesville.
Baker, E. B., Gatesville.
Bellamy, C. L., Turnersville.
Brown, R. J. (Pres.), Gatesville.
Graves, Ed, Gatesville.
Haines, H. M., Gatesville.
Hall, T. M., Coryell City.
Hamilton, J. H. (Sec.), Jonesboro.
*Jordan, D. M., Oglesby.
Newland, W. B., Gatesville.
Raby, R. L., Gatesville.

ERATH COUNTY MEDICAL SOCIETY.

Black, Roy C. (Sec.), Stephenville.
*Bryan, T. F., Dublin.
Cragwall, A. O., Stephenville.
*Gain, O. O., Dublin.
Gordon, T. M., Stephenville.
Keith, Uel, Thurber.
Langford, A. E., Stephenville.
Mulloy, N. T., Lingleville.
*Naylor, S. D., Stephenville.
*Sessums, J. R., Dublin.
*Sheppard, O. H., Morgan Mill.
*Winters, E. S., Dublin.
Yarbrough, E. E., Alexander.

FALLS COUNTY MEDICAL SOCIETY.

*Aycock, Fred, Rosebud.
Barnett, J. H., Marlin.
Baxter, T. D., Marlin.
Beck, Emma, Marlin.
*Bryson, J. G., Bastrop.
*Buie, N. D., Marlin.
Bundy, O. T. (Sec.), Marlin.
Burdick, H., Lott.
Curry, H. P., Reagan.
Garrett, H. S., Marlin.
*Green, J. E., Kosse.
Hayes, M. A., Lott.
Hornbeak, A. C., Marlin.
*Hutchings, E. P., Marlin.
Jansing, B. A., Lott.
*Logsdon, W. K., Mexia.
Martin, J. E., Eddy.
*Mitchell, J. H., Kosse.
*Munger, S. S. (Pres.), Marlin.
*Rice, S. P., Marlin.
Shaw, F. H., Marlin.
*Smith, L. M., Marlin.
Streit, A. J., Marlin.
*Torbett, J. W., Marlin.
Torbett, O., Marlin.
Wallace, H. E., Reagan.
Wood, E. M., Marlin.
White, J. B., Marlin.
Whiteside, R. B., Lott.
York, F. A., Marlin.

HAMILTON COUNTY MEDICAL SOCIETY.

Beach, D. B., Hamilton.
*Bolding, W. T., Hamilton.
Chandler, C. E. (Pres.), Hamilton.
Cleveland, C. C. (Sec.), Hamilton.
Currie, J. D., Hico.
*Durham, C. E., Hico.
Gardner, J. H., Evant.
Hall, C. M., Hico.
Hartman, V. A., Hamilton.
*Kooken, R. A., Hamilton.
Williamson, A. T., Indian Gap.

HILL COUNTY MEDICAL SOCIETY.

Armstrong, F. G., Hubbard.
Barnes, Livingston, Hubbard.
*Boyd, J. E., Hillsboro.
Buie, John, Hillsboro.
*Campbell, C. C., Itasca.
Faulkner, C. F., Whitney.
Faulkner, S. A., Whitney.
*Fuller, H. H., Hillsboro.
Gilbert, A. J., Hillsboro.
Hanks, J. M., Blum.
Holland, J. T., Itasca.
Ivy, H. T., Hillsboro.
*Jenkins, G. H., Bynum.
*Lowrey, W. W., Leroy.
*Mahaffey, H. A., Hillsboro.
McDonald, J. F., Hillsboro.
McKown, J. S., Osceola.
McPherson, A. B., Lovelace.
*Miller, J. W., Hillsboro.
*Montgomery, G. L., West.
*Price, Sterling, Mertens.
Robert, J. J. (Pres.), Hillsboro.
Robison, D. K., Itasca.
Salmon, R. H., Irene.
*Sammons, H. P., Hubbard.
Shoemaker, L. F., Hillsboro.
*Sims, F. D., Abbott.
*Smith, Ben C. (Sec.), Hillsboro.
Smith, E. G., Malone.
Spaulding, J. W., Hillsboro.
Speer, J. A., Itasca.
*Stephenson, H. H., Frost.
*Treat, W. F., Whitney.
Vaughan, B. H., Hillsboro.
Vaughan, Edwin, Hillsboro.
Ward, E. D., Hillsboro.
*Weir, J. P., Covington.

HOOD-SOMERVELL COUNTY MEDICAL SOCIETY.

*Dabney, T. H., Granbury.
Gandy, J. H., Lipan.
Jarrett, A. R. (Pres.), Granbury.
Lancaster, Gus N. (Sec.), Granbury.
*Menefee, E. L., Granbury.
*Morgan, E. H., Granbury.

JOHNSON COUNTY MEDICAL SOCIETY.

*Alexander, W. P., Cleburne.
*Anderson, C. C., Venus.
*Ball, W. P., Cleburne.
*Bradford, C. C., Cleburne.
*Cahill, M. C., Lillian.
Cooke, C. C., Cleburne.
*Cummings, W. J. (Pres.), Alvarado.
Dennis, M., Cleburne.
Edgar, C. L., Cleburne.
*Ezell, C. V., Cleburne.
Ezell, U. D., Cleburne.
*Farrar, Mary, Cleburne.
*Garner, A. F., Grandview.
*Harris, R. L., Cleburne.
Johnston, W. F., Cleburne.
*Knox, M. T. (Sec.), Cleburne.
*Lucey, Wm. E., Cleburne.
*McNairn, S. P., Burleson.
*Osborn, J. D., Cleburne.
Pearson, J. I., Joshua.
*Prestridge, B. G., Alvarado.
Roark, R. H., Cleburne.
Self, T. N., Cleburne.
*Shultz, C. A., Alvarado.
*Sitton, J. W., Alvarado.
Smith, E. P., San Antonio.
Stalcup, J. M., Cleburne.
Strickland, D., Cleburne.
*Turner, B. H., Cleburne.
*Washburn, W. R., Cleburne.
Yater, Lee, Cleburne.
*Honea, T. C., Cleburne.
*Shytles, J. T., Fort Worth.
*Shytles, W. M., Terrell.

LIMESTONE COUNTY MEDICAL SOCIETY.

Barnett, J. B., Thornton.
Brown, M. M., Mexia.
Cromean, R. E., Mexia.
Dorsett, D. H., Mexia.
Driver, J. S., Cooledge.
Forrester, R. E., Mexia.
Goolsby, J. T., Fort Worth.
*Hamm, E. F., Mexia.
Holton, B. F., Purdon.
Hurley, C. O., Mexia.
*Jackson, R. B. (Pres.), Mexia.
Leach, R. N., Big Hill.
Moore, J. F., Cooledge.
McKinzie, C. P., Mexia.
Oates, T. F., Mexia.
Ponton, H. H., Mexia.
Seale, J. J. (Sec.), Thornton.
Bedford, W. A., Thornton.
Cox, J. W., Groesbeck.
Holton, T. J., Groesbeck.
Mitchner, J. M., Mexia.
Strickland, M. L., Groesbeck.
Stephens, G. H., Personville.
Wilkins, W. J., Kosse.

MILAM COUNTY MEDICAL SOCIETY.

Anderson, R. B., Thorndale.
Barclay, T. S., Rockdale.
Coulter, H. T., Rockdale.
Crockett, R. H., Thorndale.
*Crump, T. E., Rockdale.
Denson, J. L., Cameron.
Denson, Tom, Cameron.
*Denson, W. A., Ben Arnold.
*Epperson, A. S. (Pres.), Cameron.
Fountain, W. J., Jones Prairie.
Herring, J. C., Burlington.
Hubert, J. S., Calvert.
Lawrence, E. L., Thorndale.
*Lyon, W. H., Buckholts.
Monroe, D. E., Cameron.
Newton, W. R., Cameron.
Page, J. A. T., Winchester.
Rischar, Edward, Cameron.
Sapp, M. C., Cameron.
Sessions, I. P., Rockdale.
Taylor, G. B. (Sec.), Cameron.
Terry, Wm., Thorndale.
*Vanzant, T. G., Cameron.
Wallis, R. W., Rockdale.
*Young, J. Z., Buckholts.

McLENNAN COUNTY MEDICAL SOCIETY.

Adams, R. E., Waco.
*Alexander, B. D., Waco.
Alexander, R. J., Waco.
Anderson, J. J., Cooledge.
Aynesworth, H. T., Waco.
*Aynesworth, K. H., Waco.
Baird, T. H., Otto.
Baker, M. D., Waco.
Bell, R. B., Waco.
Bidelspach, W. C., Waco.
Black, H. C., Waco.
Blailock, H. F., Waco.
Bowman, N. H., Waco.
Brannon, E. C., Waco.
*Brooks, C. H., Waco.
Brown, J. B., McGregor.
*Cannon, I. F., Mart.
Christopher, O. T., Waco.
*Colgin, I. E., Waco.
*Colgin, M. W., Waco.
Collins, C. E., Waco.
*Collom, C. C., Mart.
*Connally, H. F., Waco.
*Connally, W. P., McGregor.
*Compton, W. J., Crawford.
*Cooke, J. E., Mart.
Corbin, M. E., Post.
*Crosthwait, W. L. (Pres.), Waco.
Craven, A. R., Waco.
*Curran, W. F., Waco.
Davis, C. W., Waco.
Dean, J. J., Waco.
*Dudgeon, H. R., Waco.
*Earl, Hallie, Waco.
*Eastland, D. L., Waco.
Elliott, O. C., Elm Mott.
Ferrell, J. R., Waco.
*Foscue, G. B., Waco.
Foster, Jas. D., Riesel.
Friedsam, S. A., Waco.
Gebhard, A. G., Waco.
Germany, H. J., Speegleville.
*Gidney, J. W., West.
*Goodall, C. L., Waco.
Gordon, R. A., Lorena.
Hale, J. W., Waco.
Harrington, J. T., Waco.
Hoke, H. E., Waco.
Huddleston, J. M., Waco.
*Jenkins, I. W., Waco.
*Jones, S. R., Waco.
Kee, J. L. (Sec.), Waco.
Langford, M. L., Mart.
Langston, I. A., Waco.
Lanham, H. M., Waco.
Lattimore, J. E., Waco.
*Lovelace, Carl, Waco.
Lowrey, M. W., Gatesville.
Liddell, G. M., Waco.
Lynch, C. P., Waco.
Manney, J. E., Waco.
Maxfield, J. R., Waco.
Miller, Garnett, Moody.
Minnock, R. F., Waco.
Murphey, Paul C., Waco.
McCauley, E. R., Moody.
McCormick, R., Waco.
*McDonald, T. L., Laredo.
*Nail, W. R., Crawford.
Ory, L. K., Waco.
Payne, L. S., Eddy.
Pope, F. M., West.
*Quay, J. E., Waco.
Rayburn, C. E., Waco.
*Reese, C. H., Waco.
Roddy, L. H., Waco.
Sadler, L., Waco.
Saunders, M. B., Waco.

Scott, B. L., Waco.
Shelton, Joe, Waco.
Shipp, W. F., Lorena.
Smith, Chas. E., Waco.
Smith, Ed, Waco.
Spillman, E. B., Waco.
Souther, W. L., Waco.
Stanislav, F. J., Waco.
Trice, W. G., Axtell.
Webb, J. B., Waco.
Wedemeyer, E. L., Waco.
*Wells, Cora V., Waco.
Wheeler, J. S., Waco.
Wilcox, Wallace, Bosqueville.
Wilkes, W. O., Waco.
*Witt, J. M., Waco.
Witte, W. S., Waco.
*Womack, J. H., Waco.
Wood, R. Spencer, Waco.
*Wood, W. A., Waco.
Zvesper, J. S., West.

NAVARRO COUNTY MEDICAL SOCIETY.

Blair, J. C., Kerens.
Bowmer, O. C., Corsicana.
Bristow, W. C., Emhouse.
*Burnett, S. H., Corsicana.
Carter, J. T., Rice.
Carter, W. W., Powell.
*Cross, W. D. (Pres.), Corsicana.
Curry, B. B., Kerens.
Curtis, R. C., Corsicana.
Daniel, J. S., Corsicana.
*David, J. W., Corsicana.
*Dickson, J. R., Dawson.
*Edgar, J. H., Richland.
Ellis, E. B., Streetman.
*Ellis, W. M., Blooming Grove.
Fountain, W. D., Corsicana.
Halbert, W. W., Corsicana.
Hamilton, J. J., Eureka.
Hanks, M. L., Corbett.
Herring, W. D., Corsicana.
*Hill, B. W. D., Dawson.
*Horn, Fred W., Wortham.
Houston, B. F., Corsicana.
Jester, Homer B., Corsicana.
*Jones, J. A., Corsicana.
*Kelton, L. E., Corsicana.
Lowrey, E. B., Blooming Grove.
McClung, J. E., Corsicana.
*McDaniel, W. O., Streetman.
McLendon, T. P., Corsicana.
McMullan, H. R., Roane.
*Matlock, Jno. W., Frost.
*Miller, Dubart, Corsicana.
Miller, T. A., Corsicana.
*Newton, E. H., Corsicana.
Norwood, E. P., Kerens.
Rowe, K. W., Kerens.
Russell, W. R., Purdon.
Sadler, T. B., Corsicana.
Sanders, A. D., Corsicana.
Shell, W. T., Corsicana.
*Sisk, J. Newton (Sec.), Corsicana.
Slater, T. S., Navarro.
Sloan, Hugh, Rice.
Sneed, K. W., Wortham.
*Smith, B. D., Kerens.
Smith, G. D., Richland.
Stevens, J. C., Richland.
*Suttle, I. N., Corsicana.
Walker, W. H., Winkler.
Wills, T. O., Corsicana.
Worsham, J. P., Emhouse.

THIRTEENTH OR NORTHWEST DISTRICT

Dr. J. F. Bunkley, Seymour, Councilor.

BAYLOR COUNTY MEDICAL SOCIETY.

*Bunkley, J. F., Seymour.
Johnson, C. E., Seymour.
Johnson, C. F., Seymour.
Lowery, R. K. (Sec.), Seymour.
McLemore, J. T., Round Timber.
Pistole, S. W., Seymour.
Ratliff, J. D., Seymour.
Richardson, J. A. (Pres.), Seymour.

CLAY COUNTY MEDICAL SOCIETY.

*Allison, J. A., Henrietta.
Arnold, C. K., Petrolia.
Carmen, E. M., Vashti.
*Crook, L. F. (Pres.), Bellevue.
Ferriss, J. H. (Sec.), Henrietta.
Greer, Albert, Henrietta.
*Hilburn, R. E., Wichita Falls.
*Jones, T. K., Henrietta.
Moffitt, J. E., Henrietta.
*Patton, F. M., Shannon.
Payne, E., Bluegrove.
Reed, H. L., Henrietta.
*Teddlie, G., Handley.
Vaughter, H. D., Byers.
Whitmire, J. D., Red Springs.

EASTLAND COUNTY MEDICAL SOCIETY.

*Allen, W. L., Rising Star.
Ball, D., Cisco.
Bettis, E. J., Cisco.
*Barker, H. M., Olden.
Blackwell, E. C., Gorman.
*Blackwell, Geo. T., Gorman.
Brice, Jno. H., Cisco.
Brittain, B. F., Putnam.
Brown, L. C., Eastland.
Buchanan, L. C. G., Ranger.
*Carter, C. H., Eastland.
*Caton, J. H., Eastland.
Clark, F. E., Cisco.
Dill, J. R., Rising Star.
*Ferguson, R. C., Eastland.
Graham, E. L., Cisco.
*Gregory, Joseph (Sec.), Cisco.
Griffin, J. E., Cisco.
Griswold, G. W., Cisco.
*Guy, W. H. (Pres.), Carbon.
Hale, Chas., Cisco.
*Holland, M. L., Ranger.
Howell, J. W., Cisco.
*Jackson, T. G., Carbon.
*Jackson, W. L., Ranger.
*Johnson, J. L., Eastland.
*Lauderdale, Thos. L., Ranger.
Lee, W. P., Cisco.
*Logsdon, H. A., Ranger.
McAdon, L. E., Ranger.
Palmer, W. C., Ranger.
Patterson, Thos., Rising Star.
Payne, T. E., Eastland.
Payne, W. E., Cisco.
Pierce, T. L., Carbon.
*Richardson, S. C., Eastland.
Rush, R. H., Gorman.
Scott, K. J., Cisco.
*Shackelford, J. A., Ranger.
Simmons, J. W., Eastland.
Stackable, Jno. B., Ranger.
Stubblefield, M. L., Gorman.
Tanner, H. B., Eastland.
*Terrell, Cabe, Ranger.
Townsend, E. R., Eastland.
Wilson, Carl, Ranger.
*Wier, A. K., Ranger.

JACK-YOUNG COUNTY MEDICAL

Boyd, F. M., Bristow, Okla.
Coop, W. T., Newcastle.
*Duncan, R. A., Graham.
Eargle, H. C., Graham.
Gant, C. B. (Pres.), Graham.
*Griffin, H. E., Graham.
*Hamilton, G. B., Olney.
*Hughes, E., Bryson.
*Key, H. H., Jacksboro.
*Locker, S. B., Jacksboro.
Mars, J. B., Newcastle.
McClure, C. C., Jacksboro.
*Padgett, W. O., Graham.
*Price, L. W., Graham.
Spencer, G. T., Graham.
Winstead, D. E., Graham.
*Winstead, L. A., Jermyn.
*Woods, D. R., Perrin.
*Woods, L. B. (Sec.), Jacksboro.

KNOX-HASKELL COUNTY MEDICAL SOCIETY.

Cadenhead, J. F., Weinert.
Davis, Joe, Munday.
Dunn, W. H., Rochester.
*Edwards, T. S. (Sec.), Knox City.
*Farrington, W. P., Munday.
Hammond, J. E., Munday.
Heard, E. F., Goree.
*Masters, W. J. (Pres.), Knox City.
*Rogers, M. W., Rule.
*Smith, A. A., Munday.
*Taylor, W. M., Goree.
Weaver, H. C., Rule.
Woodall, O. L., Goree.

PARKER-PALO PINTO COUNTY MEDICAL SOCIETY.

*Baldwin, W. S., Mineral Wells.
Beeler, B. R., Mineral Wells.
*Chandler, J. N., Weatherford.
*Davis, E. A., Dallas.
Dick, N. E., Millsap.
*Eastland, J. H., Mineral Wells.
*Evans, A. J., Mineral Wells.
*Garmany, J. F., Mineral Wells.
*Garrett, A. S., Weatherford.
Harrell, M. L., Mineral Wells.
Harrison, F. E., Graford.
*Holcomb, I. E., Thurber.
*Lasater, W. B., Mineral Wells.
Law, C. B., Mineral Wells.
*Leach, A. F., Weatherford.
Leach, H. F., Weatherford.
McCorkle, J. H., Gordon.
*McCracken, J. H., Mineral Wells.
*McNally, Chas., Weatherford.
*Mincey, J. N., Mineral Wells.
*Pedigo, W. S., Strawn.
*Pyle, J. N., Mineral Wells.
*Roberts, L. C., Mineral Wells.
*Rowley, E. A., Strawn.
*Simmons, Phil R., Weatherford.
Simmons, W. L., Brazos.
Smith, R. H., Palo Pinto.
Sparks, W. Y., Poolville.
Sublett, J. W., Poolville.
Thompson, A. W., Mineral Wells.
*Thompson, M., Weatherford.
Wagley, H. F., Mineral Wells.
*Williams, C. B. (Pres.), Mineral Wells.
*Yeager, E. F. (Sec.), Mineral Wells.
*Yeager, R. L., Mineral Wells.

STEPHENS COUNTY MEDICAL SOCIETY.

*Buchanan, E. B., Parks.
Cartwright, H. H., Breckenridge.
Cupp, C. D., Breckenridge.
French, J. P., Breckenridge.
*Guinn, W. B., Breckenridge
Kessler, C. M., Breckenridge.
*King, J. E., Breckenridge.
Lindley, O., Breckenridge.
Ramming, H., Breckenridge.
*Swinney, B. A., Breckenridge.
*Webb, W. T. (Sec.), Breckenridge.
*Wharton, J. W., Breckenridge.
*Wood, Grover C., Breckenridge.
*Wray, P. C., Parks.
Youngblood, D. J. R. (Pres.), Breckenridge.

THROCKMORTON COUNTY MEDICAL SOCIETY.

*Berry, W. L. (Sec.), Throckmorton.
*Turner, C. A., Woodson.

WICHITA COUNTY MEDICAL SOCIETY.

Atkinson, Curtis, Wichita Falls.
*Beckman, M. A., Wichita Falls.
Clark, J. F., Sr., Iowa Park.
Clark, J. F., Jr., Iowa Park.
*Clark, Gordon G., Iowa Park.
*Collard, F. R., Wichita Falls.
Cramer, S. E., Electra.
*Fletcher, J. H. (Pres.), Wichita Falls.
*Gill, J. M. F., Burkburnett.
*Glover, M. H., Wichita Falls.
Graham, R. H., Wichita Falls.
*Guest, J. C. A., Wichita Falls.
*Hall, J. D., Wichita Falls.
*Hampshire, G. H., Wichita Falls.
Hargrave, R. L., Wichita Falls.
Hartsook, C. R., Wichita Falls.
Howser, J. P., Wichita Falls.
*Jones, Everett, Wichita Falls.
*Kiel, O. B., Wichita Falls.
Kimbrough, O. T., Burkburnett.
Lane, A. L., Wichita Falls.
Ledford, H. P., Wichita Falls.
*Lee, Q. B., Wichita Falls.
Lindley, C. A., Mankins.
*Lowry, W. P. (Sec.), Wichita Falls.
Martin, W. P., Burkburnett.
McCurdy, T. C., Archer City.
McNees, A. J., Wichita Falls.
*Mackechney, L., Wichita Falls.
*Meredith, D., Wichita Falls.
*Monroe, C. W., Wichita Falls.
*Nail, J. B., Wichita Falls.
Ogden, W. H., Electra.
*Patillo, A. D., Wichita Falls.
*Parker, W. L., Wichita Falls.
*Parmley, T. H., Electra.

*Parnell, L. D., Wichita Falls.
*Powers, J. W., Wichita Falls.
Prichard, H. D., Wichita Falls.
Reeves, H. D., Burkburnett.
Rhodes, W. L., Wichita Falls.
*Russell, I. D., Burkburnett.
*Shepherd, F. D., Burkburnett.
*Smith, R. C., Wichita Falls.
Stephenson. C. W., Wichita Falls.
Stripling, L. F., Wichita Falls.
Swarts, W. W., Wichita Falls.
Terrell, A. P., Wichita Falls.
Tyson, W. S., Wichita Falls.
*Walker, M. M., Wichita Falls.
West, A. W., Wichita Falls.
*White, F. S., Wichita Falls.
Wilson, O. W., Wichita Falls.

WILBARGER COUNTY MEDICAL SOCIETY.

Dodson, Jas. E., Vernon.
Dodson, Jas. E., Jr., Vernon.
*Flaniken, B. D., Vernon.
Garland, A. B., Vernon.
Hix, Richard W. (Sec.), Vernon.
King, J. C., Harrold.
King, Thos. A., Vernon.
Moore, Milton J., Vernon.
Moore, Wm. R., Vernon.
Parrish, Minnie O., Vernon.
*Reger, Howard (Pres.), Vernon.
Rhoads, Henry H., Vernon.
Rogers, Alex C., Odell.

FOURTEENTH OR NORTHERN DISTRICT.

Dr. A. B. Small, Dallas, Councilor.

COLLIN COUNTY MEDICAL SOCIETY

Addy, E. E., Nevada.
Bounds, R. W., Prosper.
Brooks, F. P., Wyle.
*Burt, J. D., Farmersville.
*Burton, E. L., McKinney.
*Carpenter, J. D., Frisco.
*Collins, J. S., Celina.
Compton, H. H., Allen.
Corry, A. C., Copeville.
Davis, R. L., McKinney.
Ellis, W. D., Plano.
Erwin, J. C., McKinney.
Grounds, B. F., Blue Ridge.
Hailey, E. L., Celina.
Harris, W. G., Plano.
Houston, D. F., McKinney.
Hunter, J. E., McKinney.
*Largent, Ben F., McKinney.
*Mantooth, J. T., Altoga.
*Manning, W. N., Richardson.
Mathers, W. R., McKinney.
Maynard, G. P., Wylie.
Metz, M. S., McKinney.
*Morrow, R. E., McKinney.
Morrow, S. F., Blue Ridge.
Neathery, Rod, Farmersville.
Perry, M. O., Allen.
*Robason, P. D. (Sec.), McKinney.
Rogers, I. S., Frisco.
Rucker, W. E., McKinney.
Saye, W. L., Frisco.
Schulze, E. C., McKinney.
Staples, T. O., Wylie.
Walker, R. N., Celina.
Wolford, H. F., McKinney.
Wolford, W. F., Allen.
Wright, J. B., Westminister.
*Wright, Will C., Farmersville.
*Wysong, W. S., McKinney.

COOKE COUNTY MEDICAL SOCIETY.

*Baker, Geo. W., Era.
Clements, Ollie E., Gainesville.
Cunningham, O. W., Valley View.
Dudley, J. B., Muenster.
Hughes, Roy E., Gainesville.
Hughes, C. T., Gainesville.
*Higgins, David M., Gainesville.
Hobbs, C. H., Marysville.
*Johnson, Chas. R., Gainesville.
Jennett, J. G., Gainesville.
*Kuser, L. W., Gainesville.
Kelley, W. N., Valley View.
Maxwell, C. L., Myra.
Murphey, J. H., Burns City.
Mead, Ernest C. (Pres.), Gainesville.
Price, W. J., Gainesville.
Smith, Carrie Weaver, Gainesville.
Thayer, C. B., Gainesville.
*Wattam, Jas. M. (Sec.), Gainesville.
*Whiddon, R. C., Gainesville.

DALLAS COUNTY MEDICAL SOCIETY.

*Alexander, J. C., Dallas.
*Andrews, B. C., Dallas.
Ard, B. N., Dallas.
Arnold, J. R., Dallas.
*Aronson, E., Dallas.
*Austin, Florence, Dallas.
Austin, J. L., Rockwall.
*Baird, R. W., Dallas.
*Baker, W. T., Dallas.
*Barton, R. M., Dallas.
*Beall, Jno. R., Dallas.
Beddo, Robt. E., Wuchow, China.
*Bell, Marvin D., Dallas.
*Bellamy, C. H., Dallas.
Bettison, D. L., Dallas.
*Black, J. H., Dallas.
Black, W. A., Dallas.
*Bland, L. F., Dallas.
Block, Cecil, Dallas.
*Blount, E. A., Dallas.
*Boone, M. A., Dallas.
*Boren, S. L., Dallas.
*Bourland, J. W., Dallas.
*Boyd, Jno. M., Dallas.
Brandau, W. W., Dallas.
Brannin, E. B., Dallas.
*Breihan, E. W., Dallas.
*Brereton, G. E., Dallas.
Brewer, T. C., Dallas.
Brooks, E. J., Dallas.
Brown, C. Frank, Dallas.
Brown, C. S., Dallas.
*Browne, W. C., Dallas.
Bruton, E. B., Dallas.
Buford, Ben R., Dallas.
*Burnett, E. W., Carrollton.
*Calhoun, J. S., Dallas.
*Carlisle, C. P., Dallas.
*Carlisle, Geo. L., Dallas.
Carnathan, W. G., Dallas.
Carnes, A. W., Hutchins.
*Carpenter, E. R., Dallas.
*Carr, M. M., Dallas.
Carrick, M. M., Dallas.
*Carroll, J. D., Dallas.
*Carroll, W. B., Dallas.
*Carter, C. B., Dallas.
*Carter, Chas. F., Dallas.
*Carter, D. W., Jr., Dallas.
Carter, Earl L., Dallas.
*Cary, E. H., Dallas.
*Cecil, Howard L., Dallas.
Clay, Henry, Dallas.
*Coble, J. M., Dallas.
Cole, R. K., Dallas.
*Collier, Gates, Dallas.
Cobb, David H., Dallas.
Cook, L. B., Dallas.
Cookerly, Van, Dallas.
*Copeland, H. V., Grand Prairie.
*Corry, J. F., Rockwall.
Cowart, R. W., Dallas.
Cox, Kelley, Dallas.
*Cromwell, R. L., New York.
Crook, Walter J., Dallas.
Crow, W. E., Dallas.
Daniel, R. H., Dallas.
Davis, David B., Dallas.
*Davis, J. Spencer, Dallas.
*Davidson, W. T., Dallas.
*Dawson, J. L., Dallas.
*Dean, Jno. H., Dallas.
Deatherage, Wm., Dallas.
Deatherage, W. R., Dallas.
Decherd, H. B., Dallas.
*Denton, Guy T., Dallas.
*Dickey, E. V., Dallas.
Donald, Homer, Dallas.
*Doolittle, H. M., Dallas.
*Dorman, J. H., Dallas.
*Downs, J. T., Dallas.
*Driver, Sims, Dallas.
*Duncan, M. J., Dallas.
*Dunlap, Elbert, Dallas.
DuPuy, Howard, Dallas.
Edwards, Wm. L., Dallas.
*Embree, J. W., Dallas.
*Estes, I. A., Dallas.
*Fetzer, Lewis W., Dallas.
*Fisher, T. B., Dallas.
*Flynn, C. W., Dallas.
*Folsom, A. I., Dallas.
*Fowler, W. W. (Sec.), Dallas.
Freedman, S. M., Dallas.
Garrett, H. G., Dallas.
*Gibbons, O. W., Dallas.
Gibert, D. W., Irving.
*Gilbert, T. C., Dallas.
*Gilbert, Clay, Dallas.
*Giles, Robt. B., Dallas.
Glass, R. J., Dallas.
Glass, Thos. W., Dallas.
*Goggans, Roy, Dallas.
*Gordon, E. S., Dallas.
*Greer, B. E., Dallas.
*Griffin, B. H., Dallas.
*Grigsby, C. M., Dallas.
Gauldin, R. J., Dallas.
*Hackler, G. M., Dallas.
Hackney, U. P., Dallas.
Hale, Wm., Jr., Dallas.
Haley, Jno., Irving.
Hall, Frank J., Dallas.
*Hambleton, B. F., Dallas.
Hamer, T. B., Richardson.
*Hannah, Calvin R., Dallas.
*Harben, R. P., Dallas.
Harber, Harry P., Dallas.
*Harder, I. E., Dallas.
Hardin, Able D., Dallas.
Hardin, D. H., Dallas.
Harral, Whitfield, Dallas.
Harrington, S. F., Dallas.
Harrison, Frank, Dallas.
Hendricks, H. H., Houston.
*Herndon, J. H., Garland.
Hill, S. M., Dallas.
Holder, C. C., Dallas.
Holderness, J. R., Dallas.
*Hopkins, May Agnes, Dallas.
Howard, Geo. W., Dallas.
*Howard, Wm. E., Dallas.
Hubbard, A. P., Dallas.
*Hudgins, B. E., Dallas.
*Hudson, W. L., Dallas.
Irvine, E. J., Dallas.
Jablow, H. B., Dallas.
Jackson, C. M., Rockwall.
*Jackson, Rueben, Dallas.
Jackson, R. R., Dallas.
Jacobson, H. B., Dallas.
*Jamison, Cyrus, Dallas.
Jansen, H. J., Dallas.
Jarmon, T. M., Dallas.
Johnson, C. L., Dallas.
Jones, A. F., Mesquite.
*Jones, J. Guy, Dallas.
*Jones, W. D., Dallas.
Keller, L. L., Dallas.
*Keller, Roy L., Dallas.
*Kindley, Geo. C., Dallas.
King, S. R., Dallas.
*Kinsell, B., Dallas.
*Knowles, W. Mood, Dallas.
Kolaczkowski, C. H., Dallas.
*Lehman, J. R., Dallas.
Levy, H. R., Dallas.
Lindley, R. D., Dallas.
*Lindsay, G. A., Dallas.
Lively, W. M., Dallas.
*Loomis, E. W., Dallas.
*Looney, W. W., Dallas.
*Lott, M. E., Dallas.
Lynch, K. M., Dallas.
*Maffett, Minnie L., Dallas.
*Mahon, G. D., Dallas.
*Marchman, Oscar M., Dallas.
*Marshall, J. H., Dallas.
*Martin, C. L., Dallas.
*Martin, J. M., Dallas.
Massey, W. E., Dallas.
Mathews, P. W., Dallas.
Matthews, A. A., Dallas.
Maupin, W. A., Rowlett.
McAfee, J. B., Dallas.
*McBride, R. B., Dallas.
*McFarland, G. B., Dallas.
McGaffey, C. N., Dallas.
McGuire, J. H., Dallas.
*McIver, Julius, Dallas.
McKinney, W. B., Dallas.
*McLaurin, J. G., Dallas.
*McLaurin, Hugh L., Dallas.
McLaughlin, R. L., Dallas.
McLeod, J. N., Dallas.
McRee, M. M., Dallas.
*McReynolds, J. O., Dallas.
*Michie, O. C., Dallas.
Miller, Tate, Dallas.
*Milliken, Gibbs, Galveston.
*Milliken, S. E., Dallas.
*Millwee, R. H., Dallas.
*Montgomery, James, Dallas.
*Morgan, F. B., Dallas.
*Moore, H. Leslie, Dallas.
*Moore, R. H., Dallas.
Morris, G. E., Dallas.
Morris, I. J., Dallas.

*Moursund, W. H., Dallas.
Murchison, D. R., Dallas.
Nance, L. M., Dallas.
*Nash, C. C., Dallas.
*Nash, A. W., Dallas.
Neuman, Albert, Dallas.
*Newton, F. H., Dallas.
*Nichols, Jonah, Dallas.
*Ormsby, F. E., Dallas.
Parks, Chas. C., Lancaster.
Payne, R. S., Dallas.
Peck, W. M., Dallas.
Pence, C. P., Dallas.
*Perkins, J. F., Dallas.
*Pierce, F. A., Dallas.
Pierce, J. L., Dallas.
Poe, J. G., Dallas.
*Potts, Jas. M., Dallas.
Poulter, J. W., Dallas.
Ratliff, H. L., Dallas.
*Rea, Melvin O., Dallas.
*Riddle, Penn, Dallas.
Riddler, G. A., Dallas.
Robertson, J. A., Dallas.
Robinson, W. L., Dallas.
*Rosser, Curtice, Dallas.
*Rosser, C. M. (Pres.), Dallas.
*Rushing, E. O., Dallas.
Samuell, W. W., Dallas.
Scanland, Viola P., Dallas.
Schaub, G. A., Dallas.
Schenewerk, Geo. A., Dallas.
*Schmaltz, W. F., Dallas.
*Schoolfield, B. L., Dallas.
*Seay, D. E., Dallas.
*Seely, M. S., Dallas.
Shannon, Hall, Dallas.
*Shelmire, J. B., Dallas.
Shelton, A. M., Mesquite.
Short, R. F., Dallas.
Shortal, W. W., Dallas.
*Simpson, Chas. M., Temple.
*Simpson, C. W., Dallas.
*Small, A. B., Dallas.
*Smith, DeWitt, Dallas.
*Smith, M. M., Dallas.
*Smith, M. M., Jr., Dallas.
Smith, Ralph C., Dallas.
Smith, Vinnie L., Dallas.
*Smith, W. Edgar, Dallas.
*Smoot, J. B., Dallas.
Sorrells, C. C., Royse City.
*Spangler, Davis, Dallas.
*Spence, R. C., Dallas.
*Spradley, J. B., Dallas.
Stephenson, J. H., Dallas.
Stephenson, W. O., Dallas.
Standifer, C. H., Dallas.
Still, J. M., Dallas.
Stone, M. P., Dallas.
*Strother, E. B., Dallas.
*Stroud, E. F., Dallas.
Super, A. R., Dallas.
Sypert, J. R., Dallas.
*Taber, Martin E., Dallas.
*Terrill, J. J., Dallas.
Thaxton, G. B., Dallas.
Thomas, B. D., Dallas.
*Thomason, A. R., Dallas.
*Thompson, L. S., Dallas.
Thornton, C. W., Dallas.
Tittle, L. C., Dallas.
Tomkies, J. S., Dallas.
Touchstone, J. L., Dallas.
Trumbull, R. A., Dallas.
*Turner, Jno. S., Dallas.
Uhler, Claude, Dallas.
Underwood, Geo. M., Dallas.
Usry, R. S., Dallas.
*Van Duzen, R. E., Dallas.
Walcott, H. G., Dallas.
*Walker, Robt. B., Dallas.
*Warren, Chas. H., Dallas.
*Watkins, A. B., Seagoville.
*Watson, C. E., Dallas.
*Watson, J. T., Dallas.
*Weaver, S. D., Dallas.
Webb, Sam, Dallas.
Wells, J. T., Dallas.
White, C. V., Dallas.
*White, Edward, Dallas.
White, W. T., Dallas.
*Whitis, Rufus, Dallas.
*Wilkinson, Albert, Dallas.
*Winford, T. E., Dallas.
Williams, T. S., Dallas.
Wilson, J. E., Lancatser.
Winans, H. M., Dallas.
*Witt, Guy F., Dallas.
*Woodard, T. L., Dallas.
Worley, Jno. R., Dallas.
*Wright, R. E., Dallas.
Yancey, R. S., Dallas.
*Young, J. C., Dallas.
*Young, W. M., Dallas.

DELTA COUNTY MEDICAL SOCIETY.

Barnett, J. M., Ladonia.
Chiles, Frank, Pecan Gap.
Combs, Robt. L., Cooper.
Darwin, Thos. M., Cooper.
DeWitt, R. Edward, Cooper.
Estep, M. A. (Pres.), Lake Creek.
*Forrester, Wm. H., Klondike.
Hearne, W. O., Enloe.
Janes, Olin Y., Cooper.
Lowry, D. O., Cooper.
Morehead, Thos. R., Ben Franklin.
Taylor, C. Curtis (Sec.), Cooper.
Westerman, David B., Charleston.
Wheat, E. Baxter, Cooper.
Woodruff, E. E., Cooper.

DENTON COUNTY MEDICAL SOCIETY.

*Allen, J. H., Justin.
*Amos, H. C., Aubrey.
Archer, C. W., Lewisville.
Copenhaver, J. C., Aubrey.
*Dobbins, T. C. (Pres.), Denton.
*Evans, Rebecca M., Denton.
*Fullingim, M. D. (Sec.), Denton.
*Francklow, C. D., Pilot Point.
*Harris, Thos. M., Pilot Point.
*Hawk, J. M., Hebron.
*Hooper, J. L., Denton.
*Inge, J. M., Denton.
*Kimbrough, W. C., Denton.
Kirkpatrick, D. V., Lewisville.
*Lain, Geo. D., Sanger.
Lester, R. E., Roanoke.
*Lipscomb, Priestly, Denton.
*Martin, M. L., Denton.
Piner, Frank E., Denton.
Robertson, H. N., Ponder.
Rowe, Hill, Denton.
Stover, J. E., Truscott.

ELLIS COUNTY MEDICAL SOCIETY.

Adamson, T. R., Waxahachie.
Blind, C. A., Waxahachie.
*Boyd, W. D., Waxahachie.
Campbell, W. E., Ennis.
*Carlisle, F. H., Italy.
Clark, L. E., Ennis.
*Cook, C. P., Ennis.
*Cox, A. J., Ennis.
*Crabtree, B. F., Dallas.
Donnell, Herbert, Waxahachie.
*Forehand, J. F., Bardwell.
Germany, J. W., Ennis.
*Gilcreest, J. E., Ennis.
Goddard, G. M., Waxahachie.
*Graham, L. H., Waxahachie.
*Grant, W. A., Bardwell.
*Gray, C. E., Ennis.
*Hall, R. L., Italy.
*Hampton, A. T., Ferris.
*Harris, J. P., Midlothian.
*Hastings, M. E., Waxahachie.
*House, E., Ferris.
Jackson, W. B., Waxahachie.
Jenkins, J. B., Waxahachie.
Jenkins, F. H., Italy.
Jenkins, W. M., Waxahachie.
*Jones, I. G. (Sec.), Ferris.
Keplinger, L., Waxahachie.
Killian, J. E., Milford.
*Looney, R. H., Waxahachie.
*McBurnett, C. W., Palmer.
McCall, R. A., Ennis.
*McCall, W. P., Ennis.
*Moore, E. O., Midlothian.
Jones, J. E., Waxahachie.
Moore, N. L., Palmer.
*Munroe, R. M., Milford.
Pickett, N. J., Milford.
*Rains, J. L., Ennis.
Sims, W. P., Waxahachie.
Stoker, G. P., Red Oak.
Story, Fred L., Ennis.
*Sweatt, O. P., Waxahachie.
*Tenery, W. C., Waxahachie.
*Terry, J. S., Ennis.
*Thomas, A. L., Ennis.
Thompson, D. G., Waxahachie.
Thornton, Z. N., Forreston.
Tibbs, R. I., Maypearl.
Tolleson, J. W., Bardwell.
*Wadley, S. L. (Pres.), Palmer.
*Weeks, W. B., Maypearl.
*West, W. F., Waxahachie.

FANNIN COUNTY MEDICAL SOCIETY.

Adair, C. C., Bailey.
Alexander, W. H., Floydada.
*Cappleman, J. J., Honey Grove.
*Carleton, J. C., Bonham.
*Carter, C. S., Savoy.
Cooper, W. A., Windom.
Crabb, R. H., Leonard.
Donaldson, J. M., Dodd City.
Dunsworth, O. C., Trenton.
Fulton, S. H., Ladonia.
*Gill, J. J., Dodd City.
*Gray, C. A. (Pres.), Bonham.
Joiner, J. C., Honey Grove.
Jones, A. C., Leonard.
*Kennedy, A. B., Bonham.
*Knight, J. T., Ravenna.
Leeman, H. H., Windom.
*McDaniel, H. A., Bonham.
Nesbitt, J. H., Honey Grove.
Nesbitt, Irene, Honey Grove.
*Nevill, J. E., Bonham.
*Nevill, O. C. (Sec.), Bonham.
Norman, J. E., Trenton.
Pendergrass, J. J., Leonard.
Rayburn, J. F., Bonham.
Relyea, S. C., Dallas.
Richardson, R. W., Bonham.
Savage, H. B., Honey Grove
Slaughter, N. J., Ravenna.
Snipes, W. G., Ladonia.
Vaughan, W. B., Honey Grove.
Ward, W. Y., Ivanhoe.
*Whitley, G. M., Honey Grove.
Whittenberg, W. F., Honey Grove.

GRAYSON COUNTY MEDICAL SOCIETY.

*Acheson, A. W., Denison.
*Ahlers, O. C., Sherman.
Birt, J. B., Whitewright.
*Blassingame, A. A., Denison.
Brown, G. F., Sherman.
Brown, H. L., Sherman.
*Carter, Wilbur, Sherman.
*Carraway, J. H., Sadler.
Carter, J. C., Denison.
Crowder, T. W., Sherman.
*Ellis, L. C., Dallas.
Fowler, F. F., Denison.
Freels, A. M., Denison.
Freeman, Wm., Denison.
Fulton, E. V., Bells.
Gunby, Paul (Pres.), Sherman.
Gunby, I. P., Sherman.
*Henschen, G. E., Sherman.
*Hill, W. H., Denison.
Hoard, W. R., Sherman.
Holt, Jas. H., Sherman.
Jamison, D. K., Denison.
Johnson, C. P., Whitewright.
*King, C. L., Whitesboro.
*Lee, W. A. (Sec.), Denison.
Ledbetter, E. E., Tiago.
Long, T. J., Denison.
May, R., Whitewright.
*May, Ross, Whitewright.
Mayes, J. A., Denison.
*McElhannon, A. M., Sherman.
McGregor, Chas. T., Denison.
Miller, E. P., Trenton.
Miller, O. H., Denison.
Millen, S. C., Gunter.
*Morrison, M. M., Denison.
Moore, S. D., Van Alstyne.
Neathery, E. J., Sherman.
Nelson, L. A., Sherman.
Pierce, Paul L., Denison.
*Price, C. D., Whitesboro.
Richardson, E. W., Denison.
Russell, B. A., Sherman.
Rutledge, A. V., Denison.
Rutledge, Jas. A., Denison.
Schenck, C. E., Sherman.
Seay, E. L., Denison.
Shelley, J. L., Howe.
Slagle, M. E., Sherman.
Sneed, A. G., Denison.
Stout, H. I., Sherman.
Truly, Roy E., Denison.
*Veazey, Wm., Van Alstyne.
Williams, E. C., Collinsville.
Wolf, J. A. L., Sherman.

HOPKINS COUNTY MEDICAL SOCIETY

Barnette, R. W., Reilly Springs.
Binion, W. T. (Pres.), Cumby.
Clark, W. A. Cumby.
*Connor, W. E., Cumby.
Dial, J. J., Sulphur Springs.
*Dorsett, Theo., Marshall.

Gill, L. B., Dike.
Harrington, C. E., Dike.
Holbrook, Jno. H., Sulphur Springs.
Johnson, J. J., Sulphur Springs.
Long, Frank, Sulphur Springs.
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Vol. XIX **July 1923** **No. 3**

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH OF TEXAS

Our New Medical Practice Act appears in full, as amended during the regular session of the Thirty-eighth Legislature, in this number of the JOURNAL. We have had the old law revised by one of the most dependable and learned lawyers of the State, and the version we are publishing may be accepted as true and correct. Certainly it is so to the best of our knowledge and belief.

It is hoped that our members will study this law carefully, and know what their own restrictions are and to whom the law applies outside of their own ranks. They will please note that this law says nothing about the chiropractor, and that the only reference to christian scientists is to the effect that they in the practice of their religion may not in fact practice medicine. It does not apply to these two groups alone, which many of us are inclined to feel it does, because of the determined fight they made on the amendments intended to perfect the law. It applies to all persons who are practicing medicine without first having registered with the district clerk of the county in which they live and practice, certain required credentials. What these credentials are, and what practices constitute the practice of medicine, are clearly set out in the law.

FISHIN'

I jes' set here a-dreamin',
A-dreamin' every day
Of the sunshine that's a-gleamin'
On the rivers—fur away.

And I kinder fall to wishin'
I was where the waters swish,
For if the Lord made fishin'
Why—a feller orter fish!

While I'm studyin', or a-writin',
In the dusty, rusty town,
I kin feel the fish a-bitin'—
See the cork a-goin' down.

So I nod an' fall to wishin'
I was where the waters swish,
For if the Lord made fishin'
Why—a feller orter fish.

—E. A. STRANAHAN, in the *Prism.*

There are many splendid features which should receive consideration, but we refrain at this time from further comment in that direction. These will be evident to any who care enough to study the law moderately. Suffice it to say that this is in all probability the best Medical Practice Act in this or any other country. It sets out certain fundamental principles and consistently develops therefrom. The only inconsistencies in the law are incident to circumstances already existing and over which we could not exercise the control we had hoped to exercise. It is a fool-proof law, so far as we can judge. The law that was amended has stood the test of the courts since 1907, and it is believed that the amendments added by the Thirty-eighth Legislature will be equally as successful in the years to come.

Shall the Medical Practice Act Be Enforced?—Surely! There can be no reason why this law should be neglected by those freighted with the responsibilities of enforcing our other State laws. We might as well discuss the advisability or the desirability of enforcing the prohibition laws, or the laws against gambling, or any of the laws designed to protect our people. The question we really

have in mind, is whether the medical profession shall take any prominent part in the enforcement of the law. That is a matter to be decided by our Council on Legislation and Public Instruction, insofar as it is to constitute a policy of the State Medical Association.

We are not able at this time to speak with authority, but we have discussed the matter with various members of the Council and have at least come to some personal conclusion. We are of the opinion that the medical profession, as such, should take exactly that interest in the enforcement of this law that any other reputable and educated group of citizens should take, plus the additional obligation incurred by our additional knowledge of the harm breakers of this law are doing and are capable of doing. In other words, the medical profession should not, as such, prosecute violators of this law, but should stand ready at all times to assist the courts and those generally freighted with the responsibilities of enforcing the law, with such expert advice as it may be able to give and such actual information as it may be in possession of. It is not our duty to go into the offices of those believed to be violating the Medical Practice Act, spy out evidence, swear out warrants and appear as witnesses against the offenders. That is the business of city, county and state police. They can see the signs and the advertisements of the chiropractors, for instance, and they know that unless these people have filed with the district clerks of their counties certain credentials, they are in violation of the law. They should make arrests accordingly. No officer of the law who passes a chiropractor's sign is doing his duty unless he investigates and makes arrests if circumstances seem to warrant. If the chiropractor should, instead, hang out a sign inviting the wayfarer to drop in for a drink of hooch, or a good game of poker, he would doubtless meet the law face to face about the second time he wheeled his chair to meet a newcomer. Is there any difference in the laws relating to these several offenses?

Heretofore prosecuting attorneys have in many instances refused to prosecute offenders against the Medical Practice Act, on the ground that no good is accomplished by such prosecution, and the courts are only cluttered up. The practice of medicine is a continuing business, and the moderate penalty for offense against the law under which it is carried on, is looked upon by offenders as merely a nominal tax, to be paid out of the earnings of the business. That was all true a short while ago, but it is different now. Those who direct our law-enforcing machinery may now be assured that the opportunity presents for properly enforcing the Medical Practice Act, the same as it does in the matter of gambling, to use an apt illustration. After the first offense, the penalty for which is nominal, comes the penalty for violating the injunction of the court, which is anything but nominal, involving a term in the State penitentiary. This is the important and at the same time the fair point in the new law. An individual may offend the law quite incidentally and without intending to do so in the first instance, but after that there can be no sympathy on this score.

We are told that it is the policy of the chiropractor to do in this State as he has done elsewhere, accept the penalties of the law and become a martyr to the cause, with the idea of using the sympathy thus incurred in support of legislation in his favor at the first opportunity offered. We cannot become particularly excited about that. We can see our friends, the chiropractors, languishing in the jails for a few days and permitting their national organization to cough up a few dollars in payment of nominal fines, but our vision is not sufficiently strong to permit us to see them in the penitentiary, serving with meekness and humility sentences for violating court injunctions.

We dealt with this problem somewhat in the May JOURNAL, under the title, "What Will the Chiropractor Do Now?" At that time we gave what we considered good advice. We still hope it will be taken seriously. For a time we thought maybe it would. There were evidences of an endeavor to salvage as much as possible of the house they had built upon the sands. The following letter from a Texas chiropractic college

served somewhat to lead us to that conclusion:

"In view of recent facts regarding legislation which affects the practice of chiropractic in the State of Texas, we forsee a shortage of chiropractors in the near future. Therefore, considering the rapidly increasing demand for chiropractic adjustments by the people of this city and State, it behooves you who are legally recognized by Texas laws to make haste and prepare yourself to care for those patients that just will insist on spinal adjustments. Doctor, you realize better than anyone else, if you have been practicing any length of time, that at no other time in your past practice and experience have you seen such a marked trend away from medicine. This is all over the nation and not just a local condition. About thirty years ago chiropractic had its real beginning in the United States, and today it has grown until twenty-six of these States have enacted laws governing and protecting the practice thereof. Be open-minded, doctor, and remember that this is humanity that we are all trying to serve, and not a colossal monster that shall dictate our lives to us.

"Even though chiropractic had its beginning with the lay people it has now reached that height where its ranks are being filled with farsighted, well educated material. The standard of schools over the country is constantly being raised, and at this time hardly any chiropractic school will grant a diploma under three years except where proper credit is shown, such as a licensed physician or surgeon.

"I receive a great deal of pleasure in serving others in a way that makes their journey through this low land of affliction and sorrow more pleasant. By teaching others the story of chiropractic I am consoled that my services are falling in a fertile field to grow and serve again. Will you allow me to tell you the story, unbiased, openly, unreservedly, as a man to man, brother to brother, as we should be. Permit me to show you the merits of chiropractic, not as a chiropractor to a doctor, but as one who is striving to serve suffering humanity to another who is doing the same? After our talk, if you decide that in your practice you are leaving undone something that you can do with adjustments, we shall be glad to enroll you in our special "Doctor's Course," now being offered by this college to doctors who have a license to practice in Texas. This course covers a period of six months' time, and entitles you to the degree of D. C. (Doctor of Chiropractic)."

The intelligent, honorable physician receiving such a letter as this would feel aggrieved, but there are evidently those who would take advantage of the situation confronting us at this time and place themselves in a position to serve that part of the public which takes to such ridiculous theories as chiropractic. According to our observation, the chiropractor is proceeding as before, no doubt pending the gathering of the storm and the first stroke of the lightening which they have been told never strikes twice in the same place. Once he learns that this particular brand of lightning will strike twice in the same place, he will probably see to it that in his own case it does not need to do so.

So far as we are aware, no other group of offenders against the Medical Practice Act is sufficiently well organized to promise any consistent plan of resistance. Our hope is, that our people will, by the amended Medical Practice Act, be protected against the menace of the ignorant, the foolish and the vicious, who would assume the serious obligations of practicing medicine without suitable preparation therefor.

Further Attempts at Chiropractic Legislation.—As had been anticipated, the chiropractors continued their efforts to secure remedial legislation into the several called sessions of the Legislature, following their pronounced defeat in the regular session. The pressure brought to bear on the Governor to have him submit the subject of chiropractic, or any subject under which this legislation might be attempted, was considerable. Those of our number who were close to the Governor assured us that he would do nothing of the sort. This assurance was accepted by the medical profession, and no great effort was made to convince the Governor that chiropractic legislation should not be permitted at this time.

The Governor, on May 2, submitted several subjects for consideration by the second called session, from which we quote the following (italics are ours):

"It is said that 75,000 citizens of Texas a year die from preventable diseases. The health of our people is of prime importance, and nothing should be left undone in the State looking to the protection of the people from disease and *from the inefficiency and incompetency of those who assume the responsibility of treating preventable diseases.* All such owe a duty, not only to the individual treated, but to the public generally. In the crusade in behalf of a healthy and able-bodied people, the Health Department should lead the way in sanitation and in the elimination of preventable diseases. *The State Health Officer should be paid a salary commensurate with the responsibilities of his far-reaching duties.* The present bureaus and board now constituting a part

of the Health Department should all be abolished and the State Health Officer should constitute the one directing head of that department, responsible for all things pertaining to the work of that department. The present law in regard to commissioners courts employing county health officers and nurses should be amended so that these respective officers should be employed by the commissioners court for full time, under the general direction of the State Health Officer, with compensation in keeping with duties performed. *The present Medical Practice Act should be amended authorizing the Board of Medical Examiners, or some other established and recognized board to cancel the license of doctors who constantly and persistently fail and refuse to furnish the State Health Department birth and death certificates, and who fail and refuse to report contagious diseases treated by them.*

"In connection with the foregoing thought, there is hereby submitted to you for your legislative consideration, the *entire renovation of the present Health Department*, the passage of such laws as will *stay the destructive march of preventable diseases*, the passage of such other laws as will *make more efficient the work of the State Health Department*, the treatment and prevention of diseases, and make more effective the health and sanitary conditions in the municipalities and counties of the State."

This, of course, let down the bars with a vengeance, and forthwith and immediately Senate Bill 58 by Senators McMillan, Watts and Rice, and House Bill 140 by Representatives McNatt, Lewis, Wilmans, Rice, Burmeister, Collins and Turner, were introduced, providing for the licensing of chiropractors, and all that goes with it, practically as before. While it is our opinion that the Governor had no intention that this legislation should be undertaken, and that he would have disapproved any law of the sort enacted under these conditions, we must admit that in his zeal and his desire to improve health conditions in the State he used such language that the Legislature could hardly refuse to consider the chiropractic bills referred to.

This additional burden was borne cheerfully, however, in view of the great service the Governor and the Legislature had rendered the cause of legitimate medicine, and while we were greatly handicapped in our efforts to defeat this legislation by the near approach and the actual progress of our annual session, through the support of our friends in the Legislature we were able to accomplish the deed, and again the day was saved. Both bills died on the calendar. There was only one test of sympathy, and it was hardly a fair one. The chiropractic bill was ordered printed in the House Journal by a vote of 83 to 26, which was heralded as a victory for the chiropractors. Those acquainted with legislative affairs understand that many times the courtesy of printing a bill in the Journal will be extended by those who are violently opposed to the bill itself. This was doubtless true in this instance, in view of the fact that several of the staunchest friends to the Medical Practice Act voted in the affirmative. Those who voted no were, Abney, Beasley, Bell, Carter of Hays, De Berry, Dodd, Fugler, Greer, Hardin of Erath, Hardin of Kaufman, Harrington, Hull, Jennings, Lackey, McBride, Mathes, Melson, Moore, Pate, Perdue, Danford, Shearer, Simpson, Stevens, Stewart of Reeves, Thrasher and Wallace. The list of those who voted in the affirmative is so long that we will not reprint it here.

It would seem that with this failure the chiropractors and their advisers would have been satisfied to rest for a time. However, such was not the case. On the very first day of the third called session of the Legislature, practically the same bill was introduced as a *revenue measure* (!) by Representatives Collins of Dallas, Bird of Bosque, Howeth of Johnson, Wilmans of Dallas and Rice of Crockett. Evidently the proponents of chiropractic legislation despaired of inducing the Governor to again do or say anything which would advertently or inadvertently permit this class of legislation, and no time was lost in their effort to beat the chiropractic devil around the legislative stump. This being a revenue measure, it was not introduced in the Senate.

Passing over the temptation to comment on the peculiar sense of honor of those who would attempt such a thing, we will, for the sake of the record, merely recount the journey of this bill through the committee and up to the lick log in the House. The bill was referred to the Committee on Revenue and Taxation (it being a revenue-producing measure!), and not to the Committee on Public Health, as all such legislation had before been referred. The following constituted the personnel of this committee: Representatives Lackey, Melson, LeStourgeon, Culp, Johnson, Looney, Young, Smith, Satterwhite, Simpson, Cable, Maxwell, Baker of Orange, Merriman, Fields, Price, Atkinson, Mathes, LeMaster and Stevens.

At the time of the hearing, May 21, the chiropractors were represented by ex-Senator Watson, to the medical profession well if not favorably known, and the opponents of the bill, consisting of representatives of the State Board of Medical Examiners and of the several schools of medicine interested in the Medical Practice Act. Mr. C. L. Black of Austin, had been asked to participate in any discussion involving the legal status of the situation. Mr. Culp at once raised the point of constitutionality, urging that the bill was not germane to the call of the Governor, and that it levied a tax on an illegal occupation. Melson urged that the principal purpose of

the bill was not revenue but licensing chiropractors to practice medicine.

Senator Watson, in replying to these objections, called attention to Federal legislation and court decisions relative thereto, citing the narcotic law as a shining example of possibilities in the way of evading the plain provisions of the constitution. He urged that while Congress had no power to deal directly with subjects coming exclusively under the jurisdiction of the State, it assumed to do so under its unquestioned authority in the matter of revenue and taxation. In this connection, Mr. Maxwell asked Mr. Watson what really was the primary purpose of the chiropractic bill. Senator Watson replied, "That is immaterial." He read long decisions from the courts, relating particularly to the narcotic law, and urged that the courts will not go behind the fact of engrossment of a bill in the Legislature. They will not concern themselves with the method of the Legislature in passing any given law. In other words, "if you get by with it, it is all right." Mr. Melson asked Mr. Watson if the bill were not in fact intended to regulate the practice of medicine, and whether the proponents of the bill would be for it if it were merely for the purpose of raising revenue. Mr. Culp asked what would be the effect if the single section relating to taxation were stricken from the bill. Mr. Melson said that the power of Congress to enact the legislation in question was entirely different from that given the State to legislate in a called session, under a message from the Governor. If the Legislature could assume to create a class of practitioners of medicine by taxation, it could then create a court by authorizing lawyers to practice therein upon the payment of a tax. In law it frequently becomes necessary for a court to judge of the purposes of a Legislature in passing a law. What sort of dilemma would the court be in if it were required to pass upon this measure, should it become a law? Could any member of this Legislature conscientiously make affidavit that the purpose of the law is to raise revenue? If doctors are to be taxed they should first be authorized to practice.

Mr. Price read a court opinion as to the validity of a law, which was based upon the element of procedure in its passage but not on whether it was a proper subject for legislation to begin with. The approval by the Governor of a law passed by the Legislature does not make such a law valid, unless it was a proper subject for legislation at the time it was passed. The regular session of the Legislature refused to enact this chiropractic bill into law when it was properly before it, and it comes back camouflaged as a revenue bill. If it were passed it would be a rank discrimination and a tax on an illegal occupation. Those who could pass the examination required by the bill, and thereby become proper subjects for taxation, would be taxed and those who could not or would not pass the examination would escape taxation. If a chiropractor can be authorized in this manner to practice medicine in violation of the Medical Practice Act, the saloon keeper could be authorized to sell whiskey and beer by the simple procedure of providing an occupation tax therefor. Mr. Price moved that the bill be returned, with the recommendation that it do not pass. Mr. Satterwhite moved that the bill be referred to the Committee on Public Health, on the ground that it is not a revenue-bearing measure.

Mr. Black, for the opponents of the measure, said that the constitution provides that the Legislature should confine its efforts to legislation in line with the will of the Governor, as expressed in his several messages. In the opinions recited by Senator Watson, legislative *procedure* is involved and not the *right* of the Legislature to enact such legislation. The courts cannot determine facts of legislation, because of the uncertainty of legislative records. Therefore, the courts accept the certificates of officers of the Legislature that laws were properly passed. Whether or not the legislation has come properly under the messages of the Governor, is not considered. In the Federal Child Labor law, the Supreme Court of the United States held that the law was not in fact a regulation of interstate commerce, but was an attempt to regulate the matters coming properly within the police power of the state. In the matter of the Federal Narcotic law, the courts held that the Federal Government had the right to pass revenue measures. No ruling has ever been made that such a bill as this is for the purpose of raising revenue and not for the more extensive and important purpose of authorizing the chiropractors to practice medicine. The question should not be whether the courts will accept the certificate of this Legislature that this bill was properly passed, being a revenue measure, but rather whether this bill shall be certified as having been properly passed as a revenue producer.

Senator Watson urged that the chiropractor is practicing medicine only because the Legislature has so defined the practice of medicine as to cover their case. Therefore, the Legislature can define chiropractic so as to place it without the purview of the Medical Practice Act. Chiropractic is not inherently a violation of the law. All this bill proposes to do is to define chiropractic and say how the chiropractors shall get licenses to treat

human ills. As to the difficulties the courts might have in determining the purpose of the Legislature in passing such a law, he read a court decision to the effect that declaring a part of a law to be unconstitutional does not necessarily alter the rest of the law. He grudgingly admitted that the decision read by Representative Price might have a bearing in the case.

Representative Field moved to report the bill favorably, which motion was seconded by Mr. Baker of Orange.

Mr. Satterwhite insisted that his motion (to re-refer to the Health Committee, on the ground that it is not a revenue-producing bill) be put, stating that he would vote against the bill purely on the ground that it is not a revenue-producing measure.

The bill was reported unfavorably, Representatives Melson, Culp, Satterwhite, Cable, Prices and Mathes, voting against it, and Representatives Johnson, Young, Smith, Baker and Fields, voting for it. The other members of the committee were absent from the room at the time the vote was taken.

The bill was brought out on a minority report, and was considered in the House May 22. This was quick action, but the Legislature was determined to decide the matter of policy involved, as early as possible. In other words, it was necessary to determine whether it would be permissible to pass any sort of legislation desired by simply adding the feature of taxation.

The battle began by Mr. Davenport moving that the chiropractic bill be printed on minority report. Mr. Melson raised the point that the bill was not proper under the message of the Governor; that it was not a revenue-producing measure. He urged that the Legislature had twice refused to pass this measure, and had amended the Medical Practice Act so as to exclude from practicing medicine the very people who sought now to practice, until they had complied with the law and had taken the same examination other practitioners of medicine had taken. Now they come with offers of money. Burmeister brought up the Federal Narcotic law, and Melson explained that it did not apply in this case, repeating the argument made before the House Committee the night before. Mr. Burmeister made a rather superficial argument bearing on the right of the Legislature to enact laws at random with their real purposes, urging that the chiropractic law is a revenue measure if it actually bears revenue, no matter how little or how much.

Representative Price urged that this is the identical bill twice coming before the Legislature, with a small tax feature added. If the House wants to follow the spirit of the constitution it will refuse to pass the law. The proponents of the bill will freely admit that its principal purpose is to license chiropractors. If the Legislature twice refused to exempt the chiropractors from the provisions of the Medical Practice Act when all the problems involved were argued at great length, why should it now undertake to do the same thing simply because a little money is to be produced?

Representative Hardin of Kaufman, asked whether if this bill is proper to come before the Legislature at this time, any other measure might not as well be admitted, provided it had a taxation feature added somewhere to some extent.

Mr. Price read a decision wherein it appeared that a court did pass upon procedure in the matter of legislation, in a called session, as to whether said legislation was authorized by the Governor in his call or in a special message.

Mr. Davenport expressed great surprise that anyone would question the facts in this case. If the measure in fact raises from $25,000 to $50,000, what else is it but a revenue-raising bill? At this point Mr. Jennings asked why the original chiropractic bill did not carry a tax. The answer was, that the chiropractors did not at that time know that the State needed money so badly (!). He then doubled the bid carried by the bill, suggesting that the chiropractors would be willing to stand a $50.00 tax.

Mr. Lackey said that one reason the Legislature had not made any progress is that it had been fooling away its time with this sort of legislation. He urged that the tax feature of the bill was simply camouflage, and should the bill be passed, the question would subsequently be raised as to the discrimination undoubtedly involved.

Mr. Kimble moved the previous question, and Mr. Davenport made the final argument in support of the bill, urging that it had no primary purpose, other than that of raising revenue. He argued that if a chiropractor does not pass the Board he does not have to pay the tax (!) Upon inquiry of the Speaker, he stated that the bill would raise from $10,000 to $25,000. The Speaker then asked whether if all of the bill except that part providing for the tax were removed, would it then be a good law? Davenport replied that the bill would be crippled but that it would still be good. Mr. Satterwhite asked what would become of the law if the revenue section only were stricken out. Davenport replied that the chiropractors would be glad to pay the tax anyway.

The Speaker stated that if such a measure as this were proper for consideration at this time, a called session of the Legislature could consider any measure proper to come before the regular session, simply by making it produce a little revenue. He asked that the House rule upon this measure, with the expectation that the ruling so made would be applied without deviation to all other measures to be introduced thereafter.

The bill was killed by a vote of 58 to 46, the point of order that it was not proper legislation under the circumstances being sustained by that vote. The roll call follows:

Yeas (against the bill).—Abney, Avis, Baker of Milam, Beasley, Bell, Bonham, Cable, Carpenter of Dallas, Carpenter of Matagorda, Carter of Hays, Covey, Cowan, Culp, DeBerry, Dinkle, Dodd, Durham, Finlay, Fugler, Gipson, Green, Greer, Hardin of Kaufman, Hendricks, Hughes, Hull, Irwin, Jennings, Lackey, Lane, McBride, McFarlane, McKean, Mathes, Maxwell, Melson, Merritt, Miller, Montgomery, Moore, Pate, Patterson, Perdue, Pinkston, Pool, Price, Quaid, Satterwhite, Shearer, Shires, Simpson, Smith, Stewart of Galveston, Stroder, Teer, Thrasher, Wallace, Williamson, Wilson.

Nays (for the bill).—Amsler, Atkinson, Baker of Orange, Barker, Bryant, Burmeister, Carson, Collins, Davenport, Davis, Downs, Driggers, Duffey, Dunlap, Dunn, Fields, Harris, Henderson of Marion, Henderson of McLennan, Howeth, Johnson, Laird, LeStourgeon, McDaniel, Martin, Morgan of Liberty, Pope, Quinn, Rice, Rogers, Russell of Callahan, Russell of Trinity, Sanford, Sparkman, Stell, Stevens, Stewart of Edwards, Storey, Thompson, Turner, Vaughan, Wells, Wessels, Wilmans, Young.

Taxing the Doctor.—Several measures were introduced in the third called session of the Legislature, taxing various businesses, professions and enterprises, most of which included the medical profession in the list of those to be taxed. Opposition was reluctantly offered to these bills, insofar as they applied to the medical profession, on the ground that the State should not at the same time expect the medical profession to do the great amount of charity practice that it must do under present conditions, and then pay the same tax others paid for vocational privileges.

Could we be assured that the State would pay for the medical treatment of all indigents, even, not including the semi-indigent, who must be cared for by the doctor with little or no compensation, we would be the first to urge that the professions be included in the general scheme of taxation. The lawyer claims exemption on the same ground, and gets it, and yet he can conscientiously refuse to serve a client, except he is appointed by the courts to do so, in criminal cases. The two are in no sense comparable. The minister of the gospel serves the poor in various ways, but as a rule he is paid a salary to serve rich and poor alike. The merchant gives away much and loses more by way of bad accounts, but he can refuse to extend credit or make gifts if he chooses to do so, without hurt to his conscience or his reputation. The doctor alone, it seems, is expected to answer the call of the rich and poor alike, to the extent of his capacity, regardless of pay. That he gets wise eventually and refuses to submit to further abuse is beside the point. Collectively he does charity practice (not *poor* pay practice) many, many times in excess of any reasonable tax that could be assessed against him. It would be extremely unfair and unjust to make him pay any occupation tax.

We would not at this time enter into a discussion of the details of these measures. None of them had the remotest chance of passing, not so much because the medical profession objected, as that all and sundry felt that there was no way to adjust taxation between the professions and certain of the occupations that were included.

Other Public Health Legislation, except for the attempt to revise the State Board of Health and Health Department laws, was of no particular consequence. It is sufficient to make a record in passing of only the one measure. Senators Clark, Cousins and Fairchild, introduced the bill in question, and it was known as S. B. 61. The following two paragraphs, we believe, embrace the principal changes sought to be made in the present law:

"Article 4521.—The Texas State Board of Health shall consist of seven members, and each member shall be a duly licensed physician authorized to practice medicine in this State. Such members shall be appointed by the Governor and approved by the Senate, and the term of each shall be six years, except that the Governor shall appoint the first board after this Act takes effect, as follows: Two members for two years, two members for four years, and three members for six years. The members of the board shall take the constitutional oath of office and shall be State Officers. Said board shall appoint a State Health Officer. The board shall, at all times have authority to control the State Health Officer in all his official acts or duties, and the board shall, from time to time, consult with the Governor in administering the State Health Laws and performing their duties under the laws of this State.

"Article 4522.—The State Health Officer shall receive a salary of $5,000.00 per year. The members of said board shall receive no salary, but shall be allowed for each day they shall be in attendance upon board meetings the sum of $10.00, including the time spent in traveling, besides actual traveling expenses and hotel bills while away from the place of their residence on official duty. The director of each bureau and Assistant State Health Officer in the State Health Department shall receive $3,600.00 per annum as compensation for his services.

"Article 4522a.—The State Board of Health shall have authority to consolidate bureaus in the Health Department whenever, in their judgment, such consolidation is necessary in the interest of economy and efficiency."

This bill passed the Senate, with certain changes, some of which were bad, but altogether not of such consequence as to discourage friends of the public health, but the limited time at hand and a mix-up in the House, prevented its passage there.

In this connection, the State Medical Association is pledged to assist the State Board of Health in revising the public health laws of this State and in securing the passage of the revised version at the first opportunity. This is considerable of a task, as may be surmised. Other organizations interested in the public health will be invited to join in working out the problem. It is hoped that many of the inconsistencies of the present law, and certainly its inadequacies, may be cured and the State placed in a position to purchase health and physical and mental well being, for its people at a minimum of cost.

Correcting the Transactions.—On page 141 of the June JOURNAL, appears the following:

"The President: I will ask Drs. Howard and Ross to introduce the newly elected President-Elect, Dr. Bledsoe of Port Arthur. Dr. Bledsoe is not here. The Secretary will introduce the other officers elected."

The minutes are corrected at this point so as to substitute the following for the paragraph just quoted:

"The President: I will ask Drs. Howard and Ross to introduce the newly elected President-Elect, Dr. M. F. Bledsoe of Port Arthur.

"Dr. A. P. Howard of Houston, then introduced Dr. Bledsoe with appropriate and laudatory remarks.

"Dr. Bledsoe: I am truly grateful to Dr. Howard for the splendid things he has said about me; I am, however, more grateful to you for the privilege and honor of being selected your President-Elect.

"Certainly I do not deserve this distinction; I will say this, however, that if I have ever worked for organized medicine and its interest, if I have ever accomplished anything for you, I can only promise to continue my efforts and work harder in the future than I have in the past.

"The time is getting late and you are tired, and this does not appeal to me as being the time for a speech, so I shall not detain you; I do, however, want to emphasize the importance of the remarks of Dr. Rosser, just now. Truer words were never spoken than those uttered by him when he stated that your presence and my presence is needed in Austin tomorrow. There is a duty that the humblest can perform on occasions of this kind. You may feel that you can be of no possible service, that you are not personally acquainted with any one who can be of help, but I want to tell you that you may know someone else who will know the person you want to reach, and in that way may serve when you do not feel that you can be of service.

"To some of you it may have seemed strange when the proposition was submitted that all who would go to Austin tonight should stand up, and I kept my seat. I did so because of illness in my family—one of my children. I must go home first. I have a telegram from Mrs. Bledsoe congratulating me on the honors you have conferred upon me, and wishing that she could be here, but on account of the illness in the family we are both denied this privilege. I will spend tomorrow at home, and if it is possible, I will be in Austin Saturday, and certainly not later than Sunday. Again I thank you."

The following note from the official stenographer, Mr. McGinnis, explains, insofar as such a thing may be explained, how the error occurred—at least, it absolves the State Secretary from any blame:

"I have examined my original shorthand notes and find Drs. Howard and Bledsoe did make certain remarks at the close of the convention. By some inadvertance these remarks were omitted from the report furnished to you and from which you published the minutes in the June JOURNAL. The error is entirely mine, and while I am utterly at a loss to account for how it occurred, it is very plain that it did occur in my office."

The State Secretary cheerfully makes the necessary corrections in the minutes.

Our Friends in the Legislature.—Herewith we present very good likenesses of those of our friends in the Legislature who have served most conspicuously. We have not included all of them, for several reasons. In the first place, there is no very evident line of demarcation, and where to begin and where to leave off constitutes a problem for the editor who would undertake a task of this sort. The Council on Legislation and Public Instruction itself was not able to tabulate the Legislature from the standpoint of service to the cause of medicine and the public health. There were those who were friendly in the main but extremely contrary in particular; others were unfriendly in the main but strategically helpful at times. There were those who were supporters of standard medicine throughout so far as the roll calls were concerned, and yet who failed in their support in close places. Considering these factors, and others, it will be understood that those we have sought to show off to our friends are presented in the hope that no marked discrimination is being practiced. There were three or four whose interest and loyalty could not be questioned who do not appear among those chosen. We are not certain how the discrepancy occurred, but our readers will remember this in using the list politically. The exact record of each legislator is on file in the office of the State Secretary, where it may be consulted at will.

Perhaps we should at this time say to these, and to the few whom we have overlooked, that our gratitude, in the name of our dependent public, is genuine and will cover a multitude of sins if required to do so. We are mindful of the political obligations incurred. We shall endeavor to discharge them. This goes for those who were against us as well. It is not a matter of political threat or political reward. It is purely and simply a matter of civic duty, embracing on the one hand gratitude and on the other regret.

OUR FRIENDS IN THE LEGISLATURE
"ALL BUT A FEW OF THEM"

SEN. JOHN H. BAILEY – CUERO
SEN. W.H. BLEDSOE – LUBBOCK
SEN. R.S. BOWERS – CALDWELL
SEN. JOE BURKETT – EASTLAND
SEN. I.E. CLARK – SCHULENBURG
SEN. W.R. COUSINS – BRONSON
SEN. W.E. DOYLE – MEXIA
SEN. THOMAS G. POLLARD – EDOM
SEN. T.H. RIDGEWAY – SAN ANTONIO
SEN. WOODVILLE ROGERS – McKINNEY
SEN. J.G. STRONG – CARTHAGE
SEN. R.A. STUART – FORT WORTH
SEN. P.A. TURNER – TEXARKANA
SEN. A.J. WIRTZ – SEGUIN
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SEN. A.E. WOOD – GRANGER

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REP. J. D. AVIS, WICHITA FALLS
REP. R. A. BALDWIN, SLATON
REP. E. B. BARRETT, TRENTON
REP. C. E. BEASLEY, SULPHUR SPGS.
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REP. EUGENE H. BLOUNT, NACOGDOCHES
REP. H. S. BONHAM, BEEVILLE
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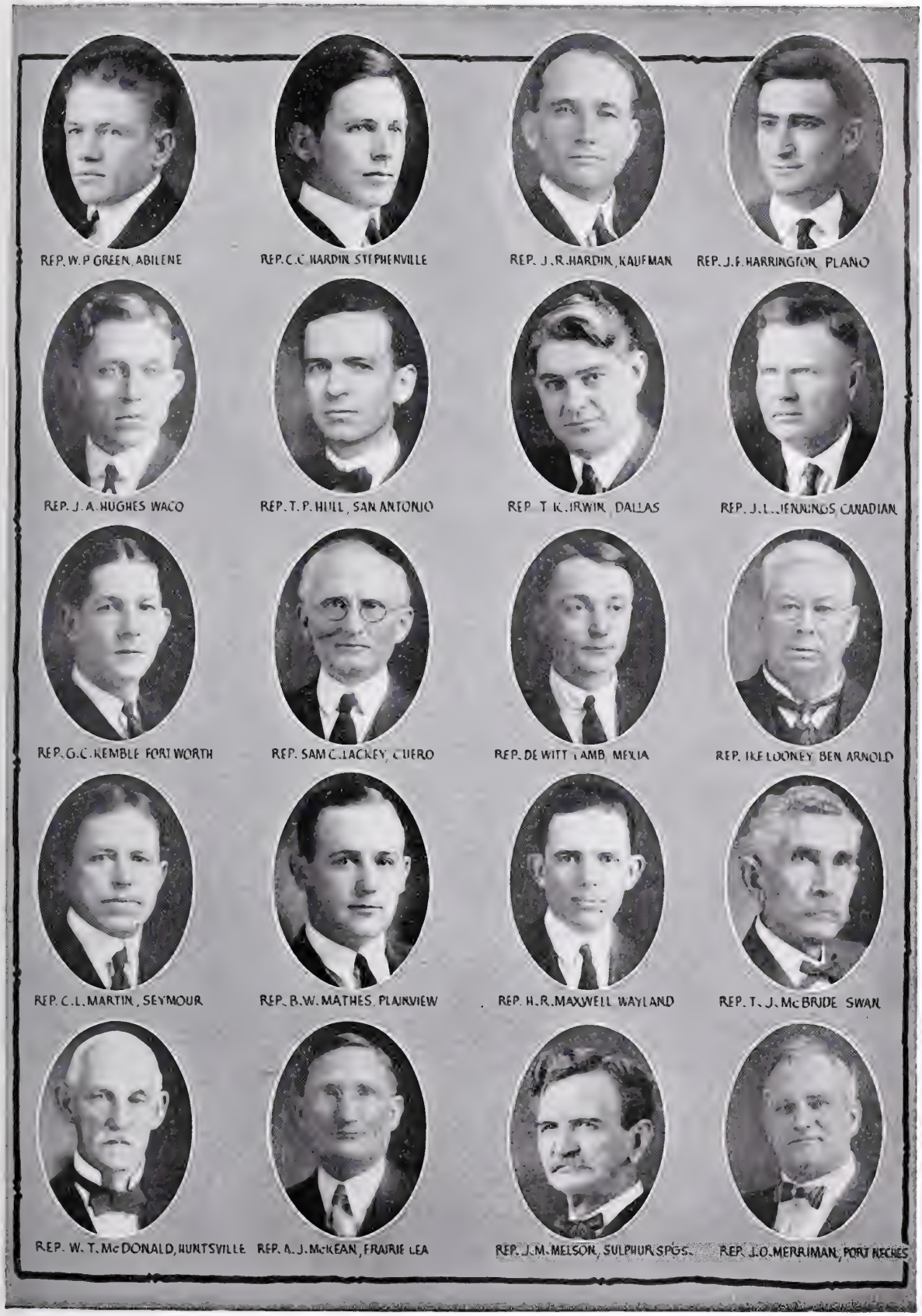
REP. I. W. CULP, TEMPLE
REP. TOM DEBERRY, BOGATA
REP. C. E. DINKLE, GREENVILLE
REP. J. A. DODD, NASH
REP. E. D. DUNLAP, KINGSVILLE
REP. A. C. DUNN, ROESBUD
REP. A. J. DURHAM, SABINAL
REP. V. D. FUGLER, MARSHALL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REP. J. R. WESTBROOK - DENISON
REP. J. C. WILSON - GONZALES

ORIGINAL ARTICLES

THE IMPORTANCE OF VITAL STATISTICS IN HEALTH WORK.*

BY

WILSON T. DAVIDSON, M. D.,
DALLAS, TEXAS.

The accomplishments of any nation depend largely upon the physical and mental strength of its people. A sound mind in a sound body is the greatest possible asset any person can have. These qualities can be attained in almost every instance by the observance of the rules of personal hygiene and a careful application of the elementary principles of sanitation and preventive medicine. We boast with a real pride of the wonderful strides that have been made within the last few decades in the various fields of preventive medicine, and view with extreme satisfaction the results of the use of vaccines and sera; the practical application of our knowledge concerning the role of the insect in the transmission of disease; the introduction of *x*-ray and radium, and numerous other products of pure scientific development. While the use of these discoveries is bringing about wonderful improvements from year to year, at the same time we are forced to admit that people are slow in taking advantage of them. Cancer is still a great problem, but this field is being searched with the most acute scientific precision. Tuberculosis, typhoid fever, diphtheria, smallpox, malaria and hookworm, all preventable diseases, are still claiming their quota every year. Some of these diseases are being gradually conquered, but the fight seems almost interminable.

Why, you may ask, is the State so slow in taking advantage of our ability to conquer certain of these entirely preventable diseases? It is simply from the fact that the question has not been put up to the people in such a light as to convince them that these diseases may be gotten rid of. Another important factor that enters into this problem, is the amount of money that is appropriated from year to year by the city and the State in carrying on this work. And it is right here that the importance of an accurate record of all diseases that may be prevented, comes into play—health bookkeeping, we might term it. A hackneyed subject, you may say, but we may as well get down to basic principles and realize that until we can show accurate figures and statistics as to the number of cases of typhoid fever, malaria, diphtheria, hookworm and other entirely preventable diseases, and the number of deaths due to them, that occur in our State from year to year, we cannot present a logical argument for an appropriation for carrying on the work of preventive medicine and sanitation. How many cases of typhoid fever, of malaria, of diphtheria, and how many deaths have we had from them during the last ten years? We know the number of cattle in the State, the amount of cotton produced, the exact area of the boll weevil, the number of feet of pine lumber marketed, the number of buildings erected in the various cities, the number of hogs and the number of chickens, but when it comes to the important and all inclusive subject of human lives, we leave it largely to guess-work. Take simply the question of malaria prevention. How many cases and how many deaths did we have in Texas from this disease in the year 1922? This is an entirely preventable disease. How many cases of dengue did we have in Texas last year? And what was the economic loss to the State from that epidemic?

Again, let us consider any one of the acute infectious diseases. Take, for instance, diphtheria. We have cases in certain houses within a certain district, reported promptly from day to day. The epidemiologist makes an accurate record of these on his spot map and sees at once that it is due to the use of milk from a particular dairy out in the country, where perhaps there is a carrier or an infected cow. Again, a case of dengue suddenly occurring in one of the inland towns, is immediately diagnosed and reported, and prompt preventive measures taken. What might have been a severe epidemic is nipped in the bud.

Most of us fail to realize the far reaching importance of an accurate recording of births. The number of instances in which this record may be made of use in after life would surprise many of us—the data for inheriting an estate, for military service, and for proving identity in numerous cases of litigation. Furthermore, the infant mortality of a city is based upon the number of deaths per 1,000 births. The more accurate and complete our recording of infant births the lower will be the infant death rate. When we make an accurate and complete record of all deaths, giving real causes of death, data will then be supplied for making use of preventive methods.

Our State sanitary code requires the reporting of all contagious diseases, and when they are of a pestilential nature the health officer must make a report by telegraph to the State Health Officer. Also, every head of a family or hotel proprietor, is required to report these diseases. Births

*Chairman's Address, read before the Section on State Medicine and Public Hygiene, State Medical Association of Texas, Fort Worth, May 8, 1923.

and deaths must be reported to the city health officer; in counties, to the clerk of the county court. In cases where it is not feasible or where the clerk of the county court is not performing his duty properly, it may be attended to by some qualified person in each precinct. How lax and indifferent various officials have been in carrying out the provisions of the State sanitary code is shown by the fact that the records of our State Bureau of Vital Statistics are woefully lacking in data on all of the important diseases that I have just been discussing.

What would the people say if we told them that upon the first of next June five hundred small children in this State would be picked out from various sections and executed, and five thousand of them condemned to a period of sickness varying from ten days to two weeks, and that some of them would be maimed for life? Would not the entire State rise up in arms? If they were told that this wholesale execution could be prevented, would they not demand that the proper precautions be taken? Yet we may safely say that this is just exactly what happens every year from diphtheria. Suppose the citizens of this vast commonwealth could see with their own eyes the ravages in death and disease brought about every year from malarial fever? Would they not demand that steps of prevention be taken at once? Most assuredly they would.

The people should be shown the situation clearly. We must institute steps to bring about an accurate recording of preventable diseases, and of all births and deaths. With this data at hand, we will have an argument for preventive measures that can be answered in only one way, by putting them into use. And then our State will make such a name for herself in the field of preventive medicine that she will be the envy of the Southland.

The Intracardiac Injection of Epinephrin.—Recently much publicity has been given to the power of epinephrin, when injected into the heart, to produce a response resulting in revivification when the heart has apparently ceased its action from certain causes. Of the many cases which have been reported, a remarkable one is that in which collapse occurred during an examination for extra-uterine pregnancy. After other methods had been tried without avail, an intracardiac injection of epinephrin was given. In ten seconds the heart sounds became perceptible. Four weeks later the patient was discharged as well. It must be borne in mind that the instances in which such restoration can be utilized are rare. When death comes as the result of the wearing away of tissues, as the result of toxic action of either bacterial or metallic poisons, or as the result of destruction of vital organs, it would be cruel and futile to arouse false hopes by what could only be a sensational experiment.—*Jour. A. M. A.*, May 5, 1923.

THE STATE SANITARY CODE: ITS SCOPE AND METHODS OF ENFORCEMENT.*

BY

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The codification of laws doubtless has been a custom among nations from the dawn of civilization. The word "code" is derived from the Latin term "codex," the stem or trunk of a tree, which later came to mean a board smeared with wax, upon which the transcription of the laws was made. The definition of a code as we now understand it, is the systematic collection of laws, rules and regulations, or a digest of those upon a specific subject of general importance.

Laws of the United States have been codified to a great extent, and they are known as revised statutes. This makes reference to various points of dispute much easier than would be the case were one compelled to search for the laws covering the disputed points.

The Sanitary Code is a digest of the laws pertaining to public health matters. It is primarily written for the guidance of the health officers of the State. It may be regarded as a series of rules and regulations based upon existing laws, sometimes even the exact wording of the statutes where such is deemed advisable, always arranged with the idea of clarity of interpretation as to the main issue. The regulations promulgated by municipal and other local bodies to meet the exigencies of a situation, must be regarded as supplementary to the state code, which cannot cover all possible conditions.

The code embodies within itself the legal aspect of sanitary principles, as well as the fundamentals of preventive medicine and public health. It attempts to explain the law in language readily understood, as well as the law and its practical application to public benefit in terms of medical science. It is a guide and mentor to those whose duties are the prevention of disease and of insanitary nuisances which often are the forerunners of disease.

Several state boards publish their statutes and the rules and regulations separately. It would seem that a code containing within itself all the necessary information imparted by the law, referring to these when advisable for more extensive detail, together with rules and regulations passed upon favorably by the board at its official meetings, would be the most rational compilation. The form a code may take is, generally, of little importance

*Read before the Section on State Medicine and Public Hygiene State Medical Association of Texas, Fort Worth, May 9, 1923.

rovided the information contained is easily vailable and obtained without long and ardu- us search through irrelevant matter. For iat reason, it is imperative that arrange- ient of the main divisions and the chapters ontaining the material of which each division composed, and the articles which make up ach chapter, be logical and consecutive. One f the greatest annoyances is a faulty ar- angement of the contents of a code, and the ndexing requires much thought in the matter f references and cross-references. The in- ex is the key by which the locked-up in- ormation is made available. Each chapter, rticle and section, requires the scrutiny of a erson well versed in the medical and sanitary echnicalities of the subject. This, in turn, iust be co-ordinated with the opinion of a awyer especially competent to pass upon the egality of the statements made. For this eason, the process of codification is long and edious, and the revision of an existing code lmost equally so. Revision is necessary as oon as legislation changes or as soon as the dvances of medical science make changes ecessary.

The Louisiana Sanitary Code is arranged n chapters, each of which pertains to some ubject of vital importance from the sanitary r health standpoint. Each chapter is again ubdivided into articles, which elaborate the hases of the chapter title. Inasmuch as it impossible to anticipate all possible con- ingencies, the articles are not devoted to pecific instances, except in those cases where inute directions are of paramount impor- ance.

The most important phase of public health communicable disease. This must, there- ore, be treated in *extenso*. The quaran- ne regulations, which are those adopted by ie United States Public Health Service, re- eive special attention.

The rules regarding food products and rugs, their preservation, the manner of pur- eying, the marketing conditions, and a host f other points, including rules for inspection, re fully covered in appropriate chapters.

The sanitation of cities, towns and private wellings as a part of public health activi- es, receives attention, in so far as such mat- rs are likely to prove detrimental to public elfare or play a part in the spread of dis- se.

There is a division for miscellaneous regu- tions on subjects which do not appropriately ll within the categories already mentioned. hese include the inspection of weights and easures and the examination of oil as to fety for export.

These are the main features of the informa- on which the Sanitary Code provides for our guidance. Each and every point is in princi- ple covered by legal enactment, or at least in minor detail has received the approval of the State Board of Health. You will immediately perceive that the sanitary code provides a model upon which to base local health regulations and, in default or failure of the latter, it provides a course of action in periods of emergency.

It is not to be assumed that the code represents a course of action which is infallible and not susceptible of changes. Even though it is presumably clear as to just what should be done under certain conditions, it is yet sufficiently elastic to admit of different interpretations, excepting, of course, where fundamental principles are involved. Then, too, changes are obligatory when alterations in custom or popular demand, or the advancement of medical and scientific knowledge, seem to demand them. These changes are termed "Amendments," and are promulgated from time to time, according to the judgment of the Board.

Just as we use our reference works in medicine when we come upon difficult or obscure cases in our practice, or when we want to accumulate additional knowledge on some case which, though we may be able to diagnose it we are not too well assured of all the possibilities, just so we may consider the Sanitary Code. It is, in fact, a *vade mecum* of the accumulated knowledge of how to handle difficult situations. It tells just how far our authority extends in combating sanitary evils. It is intended to be a work of reference for the sanitarian, the health officer, the municipal councils and the county officials. It is not claimed that the last degree of perfection has been reached in its framing. No doubt there are many articles which could be subjected to revision and improvement. But neither are the laws of the land the acme of legal perspicacity, of justice and of righteousness. The reason is clear. Both are the works of the human mind, open alike to the fallibilities of personal prejudice, imperfections of judgment and limited knowledge.

Our code has quite recently been subjected to revision. A large amount of new material was incorporated, much of it rewritten, and obsolete or impracticable parts dropped entirely. We have now a code which we think is up to date. It incorporates the most recent ideas on public health matters. It will, however, remain for the future to develop the weak points and bring proof positive that the innovations are adaptable to our peculiar conditions. This practical test will doubtless be a matter of years, and it remains to be seen whether the practical application of the new rules and methods laid down in the text

will withstand the criticism which is sure to follow.

While it is not in itself the law, the code interprets the law and, therefore, has the backing of the legal power of the State in the enforcement of its regulations. The power and authority of the State Board of Health of Louisiana to promulgate a Sanitary Code and Pure Food and Drug Regulations, was attacked in 1911. The case was taken to the Supreme Court and the Code and Regulations were held constitutional.

When the first definite, state-wide effort was made to put into effect these apparently drastic regulations, publicity helped. When shown the insanitary conditions existing, the communities became interested. They did not want to patronize markets where maggots reveled in ice boxes and under the oilcloth of the stands, nor did they enjoy eating bread made by men who took a bath on Saturday only, and so on. So, through the reports of inspections made public, there was a general clean-up in certain kinds of business, and a wholesome fear of the State Board developed among those who served the communities as food purveyors.

The public demand for at least a semblance of cleanliness has increased with the years. The office of the State Board receives numerous requests for "an inspection" of such and such a condition. Through these it has been possible to create, more or less, a demand for better local health service. The State officers are kept continually on itineraries, inspecting and reinspecting. This stimulates local interest and gives the impression of constant supervision. I do not mean that the local health work is as efficient as desired, but the retrospect of thirteen years shows improvement in the public attitude toward compliance with the regulations of the Board.

In some phases of enforcement, we have not been so successful. It took eight years of intensive educational work to put Louisiana in the Registration Area for deaths. We are not in yet for births. The "Model Law" was passed and, through a ruling of the Postmaster General, the appointment of the local postmaster as registrar was made state-wide, even to the most remote rural district. But the district attorneys and grand juries cannot be persuaded that failure to report births and deaths amounts to much. The psychology of this attitude is clear. The public generally, even the well informed, do not know the why of statistics. Neither the practical nor the theoretical value of these figures is apparent to them. The war helped in showing how necessary a birth certificate could be; and since the war claimants for insurance and pensions have discovered the necessity of a legal record of death.

I regret to acknowledge that many of our own profession are negligent or indifferent in this matter. To stimulate them the Legislature of 1922 passed a law requiring parishes (counties) to pay physicians and midwives twenty-five cents for each birth or death certificate accepted by the State Board of Health as properly filled out. The moral effect of the law is what we base our hopes upon, but the pay will influence some, particularly the midwives.

Perhaps the greatest obstacle has been the lack of co-operation on the part of the judiciary in tolerating violations which appear to us—and to many who understand the need of vital statistics, as important as any other violation of the law.

THE IMPORTANCE OF DISEASE PREVENTION.*

BY

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City Health Officer,
HOUSTON, TEXAS.

I do not presume to cover the entire subject of "Preventive Medicine" or "Disease Prevention," but I do wish to emphasize the importance of beating the disease game before it starts; outwitting it, as it were. The progress of "Disease Prevention" is spreading rapidly over the world, and it is being taken up by others than Doctors of Medicine.

Several of our most prominent institutions of learning are offering special courses leading to the degree of "Doctor of Public Health." Industries, chambers of commerce, societies, insurance companies and others, are rapidly awakening to the importance of this movement. The National Safety Council is considering "Prevention" along all lines, disease the same as accidents. The International Health Board, Cancer Research Society, American Red Cross and others are giving it the closest study. The American Public Health Association, which was founded by that Pioneer in Disease Prevention, Dr. Stephen Smith, in 1871, has reorganized and formed a College of Fellows which confers the degree of Fellow of A. I. H. A., which corresponds in health work to the F. A. C. S. in surgery and the F. A. C. P. in medicine.

Out of all of these activities will come great concentration on the one thought "Prevention," and I hope to see organized medicine as one of the leading bodies in it

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promotion. The old adage, "An ounce of prevention is worth a pound of cure," is all wrong in many instances. Less than a grain of prevention is worth a million pounds of cure. For example, it took only one flea to convey rodent plague to several large cities on the Gulf Coast in 1920, but it took several millions of dollars and thousands of tons of concrete, to ratproof those cities, not taking into account the value of the human lives lost.

It took only one case of dengue last year to start that disease raging. What applies to communicable disease, applies to other affections of the human race. How often one word wrongly placed has started a mental reaction in a constitutionally inferior being, resulting in a case of psychoneurosis. The first dose of morphine, heroin or cocaine, is often enough to start the individual with a weak make-up, on his or her way to addiction; and there have been plenty of the first doses in the last few years, as all of you in health work know. One diphtheria carrier with an all day sucker or a toy balloon requiring inflation by mouth, can start a diphtheria epidemic. Let's get the carriers first, then we won't need to worry about the epidemic or pandemic.

Now, what is the most logical method of promoting the cause of disease prevention? I will answer that question: *Education.* We can pass laws and punish until doomsday; it will not accomplish what education will. Of course, I heartily approve of sanitary laws and ordinances, and I believe in enforcing them, but education is our best bet. That does not mean just health talks, but a general, well organized disease prevention movement, designed to show the people why we are urging these methods of safeguarding the public health.

Four years ago there were but a few people in Houston who knew what a rat guard was for. Now, let a ship dock at Houston and 50 per cent of the Sunday visitors will remark upon the rat guards, and explain to their country cousins just exactly what they are for.

How often the health officer is called upon to renew the typhoid prophylaxis of an ex-soldier. The remark "Doc, where can I get another typhoid shot," is quite familiar to most of us. The general populace of this country want prevention, and that shows the effects of education. Now let us broaden out, throw out our first lines of defense and whoop it up.

Take rabies as an example. For many years since the great discovery of Pasteur, we have been appropriating funds and maintaining stations in every state and most every large city, for the treatment of those bitten by rabid dogs, and of course this has accomplished much, but only recently has this subject been given much thought. We are beginning to have ordinances passed requiring dogs to be immunized against rabies, and why not? England and Japan have practically eliminated rabies by muzzling and by immunization methods. Even now, when an ordinance is introduced to prevent rabies by requiring the expenditure of only a couple of dollars by the dog owner, and by requiring the dog to submit to an occasional hypodermic of two or three cc. of anti-rabies serum, some sentimentalist, anti-vivisectionist or other such crank, will get very active, and in some cases hold up good, sound preventive medicine legislation. If there is to be sentiment in public health, let it be on the side of the infected person (or, for that matter, the bitten animal). No one has ever witnessed the agonies of a child or animal dying of rabies, without feeling extremely sorry for the poor unfortunate.

A very accomplished editorial writer on one of our daily papers during Health Week wrote an article on public health in which he stated that State and Federal medical boards and health services were doing most excellent work in sanitation and disease prevention, and tropical diseases, such as plague, yellow fever, malaria, typhoid, etc., but that the people themselves were not doing much in personal hygiene in the prevention of the organic diseases, and this is no doubt true.

Give a city excellent water, pasteurized milk, government inspected meat, perfect housing, etc., and if the individual stuffs his stomach with the high-grade meat and other food delicacies, and allows himself to grow fat, doesn't exercise, etc., he needs a lesson in disease prevention by personal hygiene. This is where the government services, or the Army and Navy, have the advantage over the civilian. They can require the physical exercises and the tests at stated periods. As this is a free country, we health officers cannot require the citizens in our municipalities to undergo periodical physical examinations and order exercises for them. We should, however, continually preach that doctrine, and be always ready to give advice on personal hygiene, or recommend someone who can. Our schools can handle this subject, and should; also, our cities should have well organized departments of recreation.

Physicians, and health officers in particular, should at every opportunity urge the importance of disease prevention, along all lines. Periodical physical examination of well people, or presumably well people, will soon be a recognized specialty, and well paid. No one should receive a complete physical

examination free who is able to pay for it. The people want disease prevention and we should give them what they want; then when we show the results of well directed scientific work, a lot of the new cults and quack schools will have to go upon the shelf.

Now, what is the proper organization to further the importance of disease prevention? In my opinion, it is the well organized Federal, State, County or City Health Department, co-operating with the Medical Association, and, of course, other health agencies. The ideal health department uses a great many of the volunteer agencies. The time, perhaps, has not come yet for the merging of all of these agencies, but it will come, and I believe that nearly all of the volunteer or private health agencies had this in view when they organized.

I will quote from the *Journal of the American Public Health Association*, November, 1922, what the Committee on Municipal Health Department Practice considers an ideal health department for a city of 100,000 population:

"1. Administration: (a) administration, (b) public health education.
"2. Sanitation.
"3. Foods: (a) milk, (b) foods.
"4. Communicable disease: (a) epidemiology, (b) tuberculosis, (c) venereal.
"5. Child hygiene: (a) infant welfare, (b) school hygiene.
"6. Laboratory.
"7. Vital statistics.
"8. Public health nursing.
"9. Communicable disease hospital."

The budget for this sort of an organization comes to $1.95 per capita, which is a good deal more than is spent by most cities, but still not too much, by any means, when the importance of the work is considered. Of course, I have not included hospitalization or clinic treatment of all kinds of diseases. This should be taken care of by the out patient departments of the hospitals.

The cities of Texas are rapidly awakening to the importance of disease prevention, and most all of them are now functioning along modern lines, but the rural districts are not getting nearly the attention they should have.

In a few counties, the Red Cross public health nurses and county health officers, are doing excellent work, but only in a few. Some of the Eastern States, such as North Carolina, are far ahead of us. Of course, the American Red Cross and International Health Board, have accomplished a great deal in some sections, but the problem of disease prevention is primarily a problem that should be handled with the tax payers' money, and I hope that every physician, health officer and citizen, interested in the welfare and health of the masses in this State, will use all of their influence to see that our State, county and city health departments receive adequate financial support from now on.

Public health is the people's health, and if they demand it they will get it. I think that public health should be made a part of our political platforms, just the same as any other vital question concerning the people.

WHAT THE PUBLIC SHOULD KNOW ABOUT THE PUBLIC HEALTH.*

BY

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The object of this paper is to bring to the attention of the medical profession the need of systematic, honest education of the public on health subjects. This does not mean to advertise the profession with the expectation of personal gain but to bring the public into the confidence of the profession, and to show them that the profession is truly its best friend.

While our professional knowledge of epidemic diseases seems almost elementary to us, when we think in terms of smallpox and typhoid fever we must remember that these subjects are *not* common knowledge to the public. We should refresh the memory of the public on the fact that smallpox was once the scourge of the human race; that diphtheria was considered 90 per cent fatal before the discovery of antitoxin, and that typhoid epidemics can be controlled at the will of the health officer.

Immunizing against smallpox and typhoid alone, has saved thousands of men in our armies. In the days of the war between the states, hospital gangrene made surgery in hospitals almost impossible. Scientific physicians have overcome hospital gangrene, so that now the disease is a curiosity. The anxious mother who calls a physician to see her sick child, when informed that diphtheria is the cause of the ailment no longer feels hopeless. She can be assured by her physician that one or two doses of antitoxin will have the child back at school within a week or ten days, very little the worse for having had the disease. While smallpox exists more or less throughout the country, through the efforts of the profession in immunizing the race over a period of many years, the disease has become so attenuated that it can exist across the street from the public school and no panic will ensue.

The Panama Canal was first attempted by

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the French. With all the scientific engineering at its command it would have been built rapidly and well but for the fact that the French physician did not come in for his share of the work. Malaria killed engineers and workers so fast that the Canal Zone became a graveyard and the project had to be abandoned. Some years later, when public health principles had been more scientifically worked out, our Government undertook the building of the Canal, and carried it to its present successful completion, to the wonderment of the engineering world. But before the engineering work was started, General Gorgas and his co-workers stamped out malaria in the Zone and made that locality a health resort.

The public should know something of the scientific principles underlying medicine. They have the right, and we have a right under our principles of ethics to give them this knowledge. The discoverers of diphtheria antitoxin could have patented this remedy and made millions. This being incompatible with our ethics, the great discovery was given to the public without pay. Yellow fever has been conquered. Physicians and health workers lost their lives in proving this fact.

Twenty years ago anyone desiring to do so could enter a medical college and graduate in a very short time, with no fundamental education. Today, prospective medical students must have a thorough literary education before they are allowed to enter upon their studies. Standards have been raised to such an extent that doctors are becoming fewer every year, but they are real, scientific doctors.

The sons and daughters of this generation will make up the personnel of the future medical profession, with its high standards of education. The public should be made to understand this. "There are no royal roads to geometry," is an adage that applies to our present standards of medical education. The medical profession will not submit to any substandards of educational requirement. As we grow more scientific, and enlighten the public more, there will be less work for us to do. The whole effort of the medical profession is to lessen the incidence of disease and make the human race happier.

I am greatly encouraged by the warm and cordial reception extended by the public to the medical profession during the late Cancer Week campaign, in which it was my pleasure and privilege to speak from the pulpits of some of the best churches in the State. The same courtesy was extended me during the recent educational campaign relating to the Medical Practice Act amendments of this year. The public press co-operated, and was eager at all times to give the public the facts, and wherever any of us representing this cause spoke, the press invariably gave us prominent space in their papers. The public turned out in goodly numbers to hear the subjects discussed. Some plan should be devised to promote, under the auspices of every county medical society in this State, public addresses two or three times during the year on subjects of public health and public policy. I don't think it wise for our speakers to attack charlatans viciously. When the public is sufficiently enlightened there will be little opportunity for the unscrupulous and ignorant doctor.

Chapter 3 of The Principles of Medical Ethics of the American Medical Association, Section 1, has the following to say:

"Because their professional training specially qualifies them to render this service they should give advice concerning the public health of the community; they should remember they play a part in enforcing its laws and sustaining institutions that advance the interests of humanity and they should cooperate especially with the proper authorities in the administration of sanitary laws. They should be ready to counsel the public on subjects relating to sanitary laws, public hygiene and legal medicine. When an epidemic prevails, a physician must continue his labors for the alleviation of suffering people, without regard to the risk to his own health or life or to financial return. At all times it is the duty of the physician to notify the properly constituted public health authorities of every case of communicable disease under his care, in accordance with the laws, rules and regulations of the health authorities of the locality in which the patient is."

Section 3 of this same chapter reads as follows:

"Physicians should warn the public against the devices practiced and the false pretentions made by charlatans which may cause injury to health and loss of life."

Medical ethics and the great call of suffering humanity, make us the guardians of the public health. We are indeed our brother's keepers. It behooves us, therefore, to forewarn our brothers in order that they may be forearmed.

Ethylene and Acetylene.—There is a revival of interest in two gas anesthetics: ethylene and acetylene. Both gases were the subject of experiment in anesthesia many years ago. The studies of A. B. Luckhardt and J. B. Carter and of W. E. Brown with ethylene confirm the earlier experience and hold out promise of the usefulness of the gas. In the recent experiments with acetylene the objectionable odor of the gas has been overcome by the addition of oil of pine. A mixture of acetylene, 40 parts, and oxygen, 60 parts, flavored with oil of pine, has been used in major operations. The advantages claimed for acetylene are: rapid induction, simplicity of administration, safety, absence of struggling and excitement, and rapid recovery. Both ethylene and acetylene are asphyxiants. Their usefulness in relation to that of nitrous oxid, and also to ether, remains to be demonstrated.—*Jour. A. M. A.*, May 12, 1923.

MALTA FEVER IN THE SOUTHWEST.*

BY

J. W. TAPPAN, M. D.,

United States Public Health Service.

EL PASO, TEXAS.

Malta fever, indigenous to the shores and islands of the Mediterranean Sea, and to various tropical or subtropical countries of Asia, Africa and America, has frequently occurred in Texas, New Mexico, Arizona and the neighboring Republic of Mexico. Endemic centers of the disease now exist in the goat raising section along the Rio Grande in Texas and Mexico, and, probably, west to California. Cases, fully confirmed by laboratory tests, have been reported in Texas since 1911, and in Arizona since 1912. Cases, not confirmed by laboratory tests, have been reported in Texas from time to time by the older physicians, since 1887, and in Arizona and New Mexico, since 1890.

The field investigations, in 1911, of Ferenbaugh and Gentry, Medical Corps, U. S. Army, showed the disease to have been epidemic in Texas at that time and, in all probability, to have been so for at least twenty-five years. In the recent outbreak in Phoenix, during the summer of 1922, more than thirty cases occurred. A description of it, given by Passed Assistant Surgeon G. C. Lake, United States Public Health Service, in the Public Health Reports, Vol. 37, No. 47, November 24, 1922, is so pertinent that it is quoted, in part, as follows:

"The first epidemic of Malta fever recorded in any city in the United States occurred in Phoenix, Ariz., during the past summer. The disease resulted from the sale of goat's milk by a high-class dairy, whereas practically all of the indigenous cases previously reported in this country were directly connected with the goat-raising industry. More than thirty cases were positively diagnosed and doubtless many others occurred. Two fatalities resulted in patients already more or less invalided by other infections. This series of cases constitutes the first, in any one locality, of sufficient size to warrant being called an epidemic.

"Cases of a peculiar febrile disease began to appear in Phoenix about the middle of May, 1922, in which a variety of provisional diagnoses, including typhoid fever, rheumatic fever, malaria, septicemia, and influenza, were made. After several weeks Malta fever was suspected, following which cultures of *M. melitensis* were secured from the Hygienic Laboratory, United States Public Health Service. Agglutination tests made at the Pathological Laboratory of Phoenix, on August 3, and confirmed later by the Hygienic Laboratory, established beyond doubt the presence of Malta fever in the city. The fact that the presence of Malta fever was not recognized earlier is an indication of the difficulty attending its early diagnosis [when not suspected].

"By the end of September more than thirty cases had been located, most of which had probably been infected before the end of June. In September a number of these cases were sufficiently typical clinically to warrant a diagnosis of Malta fever, even in the absence of a known source of infection or of positive serological tests. Temperature records could be secured in only twelve of the cases, nine of which showed the wave-like effect from which the name 'undulant fever' was first given the disease by Hughes, and the other three cases were not inconsistent. The length of time that the fever lasted varied from sixty days to more than one hundred and fifty days. The cases varied in severity from ambulatory to fatal. All the cases, with the exception of one patient, who objected to having blood taken, were positive for Malta fever, by the agglutination test.

"The investigations showed that all but three of the patients had drunk goat's milk supplied from the same dairy and the possibility of these three having drunk this milk could not be excluded."

From information obtained by Lake during his investigations in Arizona, it is quite certain that Malta fever has occurred in various parts of the state at different times. He particularly mentions a series of five cases all in the same family, which occurred in Phoenix in 1908. These cases were attended by a physician who himself had the disease and from his account of his own illness and a description of these cases, Lake concluded that Malta fever has been present in Arizona for at least fourteen years. I have been told by some of the older physicians of New Mexico and Arizona of cases occurring in those states as early as 1890, and, from the descriptions given, these were undoubtedly Malta fever.

Lake states that goat's milk is being sold at the present time in a number of cities in the United States, and as it is consumed largely by infants and invalids, particularly by patients with tuberculosis, Malta fever could exist in these persons for a long time without being recognized. He advocates the prohibition of the sale of goat's milk in cities where an ample supply of cow's milk is available, allowing the sale of goat's milk only to secure a sufficient supply of fresh milk, and then only after efficient pasteurization under supervision of the health authorities.

Goat's milk has certain advantages, and physicians are using it more than formerly in difficult feeding cases, both in infants and adults. Swiss, Nubian and Abyssinian goats are being improved, and they give in proportion to their body weight about twice as much milk as the cow. This, of course, is a source of milk supply which cannot be ignored. It must also be borne in mind that the Angora goat is being raised in increasing number for the mohair industry, and that the Mexican goat is extensively used for meat.

As goats are practically immune to tuberculosis, the question of the transmission of a passive immunity to tuberculosis by the

*Read before the Section on State Medicine and Public Hygiene, State Medical Association of Texas, Fort Worth, May 8, 1923.

ransfer of antibodies from goat's milk to young infants should be considered. Investigations are being made at present but published results are incomplete. It appears, also, that goat's milk may be considerably higher in antiscorbutic properties than cow's milk. Another advantage is the fact that it cannot be skimmed, as the cream does not form a distinct layer. However, it is not my intention to discuss the value of goat's milk in this paper.

These facts are merely mentioned in passing to show that the increased use of goat's milk by physicians is not altogether a fad and that, as the goat industry is rapidly increasing in the area in which Malta fever is endemic, it is urgent that some provision be made by the various state health departments for control of the infection. It is obvious that the industry is here to stay. It is also obvious that a serious condition may confront any community in which the disease remains unchecked. As the organism is conveyed to man by way of the alimentary canal, from drinking raw goat's milk containing it, inspection of all dairies and goats furnishing this milk should be carefully made by local health departments. Also, as the organism may gain entrance by insect bites, or by contact (urine or dust), this supervision should extend not only to the sale of milk and routine serological tests but to the premises wherever goats are kept. Dairy herds are now tuberculin tested in most communities, as the danger of tuberculous cattle is fully realized. Though Malta fever is not so serious a menace as tuberculosis, the Phoenix epidemic teaches us that goat herds furnishing milk to communities in the Southwest should be tested serologically.

While a discussion of Malta fever and its treatment is hardly within the scope of this paper, I feel that a brief outline of the symptoms and a word in regard to the differential diagnosis, may be of value, since, in the absence of an epidemic, especially in the earlier stages, mistakes in diagnosis are easily made.

Malta fever is essentially a septicemia with a chronic course. It is characterized by periods of fever, interrupted by relapses, and frequently, later, by continued fever with a marked rise at night. The causative organism is *M. melitensis* of Bruce (1887).

The organism is very resistant, except to heat, and is said to live for at least 80 days in dust, and from 20 to 30 days in either fresh or salt water. It has been found in the milk of 15 per cent of the goats examined in Malta. Lake found 18.3 per cent of 115 goats examined at Phoenix, positive serologically. Ferenbaugh and Gentry, in their investigations in Texas, found 19.4 per cent positive in 128 goats examined.

The animals examined are apparently quite healthy, although occasionally chronic mastitis is noted. It has been assumed that the disease in man may be spread through the respiratory system by inhaling dust which has been contaminated by goat's urine, and also through abrasions, wounds or cuts. Infection is reported to have taken place through using a clinical thermometer in the mouth of a healthy subject after it had been used by one suffering with the disease. The prick of a contaminated needle has been sufficient to infect. It is said that persons between six and thirty years of age are most susceptible. A long residence in an endemic center does not confer immunity. Bruce believes that one attack confers immunity and, though other clinicians have expressed doubt as to this, it is probably true.

The incubation of Malta fever, formerly placed at fourteen days, has been proven, by laboratory infection, to be six days.

The micro-organism of Malta fever is found in the blood, spleen, liver, kidney and lymphatic and salivary glands. It may be found in the stomach of mosquitoes which have fed on patients, though it has not been possible to prove that either mosquitoes, flies or fleas, are concerned in its transmission.

The symptoms of Malta fever are indefinite at the onset. There is headache, anorexia, and a tired feeling in the limbs. The temperature rises gradually, though occasionally the onset is sudden, with chills. As a rule there is sweating, nausea and insomnia. The abdomen is tender, constipation is marked and sometimes there is an irregular diarrhea. In mild cases the temperature may fall gradually at the end of ten days; in severe cases it lasts longer. After a few days of apparent convalescence, the temperature, in the majority of cases, rises again and remains elevated for a period of two or three weeks. The patient grows anemic and the spleen becomes enlarged and tender. The blood shows a leukopenia. Tenderness and swelling of the joints are common. Metastatic orchitis sometimes occurs. The hair often falls out. Periods of fever and apyrexia may last for months. After that the temperature becomes undulating, with marked rise at night and fall in the morning. The patient feels miserable, has headache and pains all over the body. The perspiration has a peculiar, disagreeable odor, profuse in character from the beginning. The joints become swollen and painful, but the skin over the joints is seldom reddened. The hip, shoulder, ankle and knee joints, are most commonly affected.

The diagnosis of Malta fever is easy if blood cultures can be made (*M. melitensis*). In the recognition of the coccus the agglutination and complement fixation tests, are helpful. It is not possible, however, in every case, especially where the patient is remote from the conveniences of laboratory methods, to have blood cultures made, and often reliance must be placed on a clinical diagnosis without blood examination.

In the differential diagnosis, four diseases easily mistaken for Malta fever must be considered. These are tuberculosis, typhoid fever, malarial fever and rheumatic fever. The diagnosis, however, is usually not difficult to make if one has Malta fever in mind. In the first place, with the exception of tuberculosis, no disease has such a prolonged course.

In tuberculosis, the regularity of the rise and fall in temperature does not attain that present in Malta fever. Usually, also, some local lesion can be found accounting for the prolonged irregular fever in tuberculosis. Examination of the blood, if possible, will at once make the diagnosis. The organism can be cultivated from the blood, but cannot be cultivated from other conditions. *M. melitensis* will give the agglutinative reaction with the patient's blood serum if the case is Malta fever.

In typhoid fever, the characteristics of that disease are present, though Malta fever may resemble typhoid in the earlier stages. However, the rash and intestinal symptoms of typhoid are absent in Malta fever. If blood examination be possible, typhoid gives the Widal reaction for the typhoid bacillus, and does not give the agglutinative reaction with *M. melitensis*.

In malarial fever, in a large proportion of the cases, the onset is abrupt. The typical paroxysms present three stages, chill, fever and sweating. The chill is intense and usually occurs in the morning hours. The hot stage which succeeds the chill is in striking contrast with the first stage. Later, when sweating sets in, the symptoms of the hot stage are promptly relieved and the temperature falls by crisis, touching the normal level quickly. These symptoms are all in strong contrast with the slow and gradual development of Malta fever. The irregular rigors of Malta fever do not resemble the chills of malaria. However, from erratic forms of malarial fever the diagnosis may be possible only by the examination of the blood for the organism of malaria. It is quite possible, of course, for a case of Malta fever to be complicated with malaria—and under these circumstances the presence of the agglutinative reaction for *M. melitensis* would make fo Malta fever—while the presence, in th course of the fever, of malaria organisms wi make the diagnosis of malaria positive.

In rheumatic fever, joint symptoms ar present, as they are in Malta fever, and th fever in rheumatism may be much prolonge However, the joint symptoms in rheumati fever are much more changeable than the are in Malta fever, affecting first one join and then another. The fever is also muc more irregular in rheumatic fever, and the is a leukocytosis, whereas in Malta fever the is a leukopenia. The agglutinative reactio with *M. melitensis*, of course, is absent i rheumatic fever.

CONCLUSIONS.

(1) Malta fever is endemic in parts of th Southwestern States and Mexico.

(2) When suspected, Malta fever is n difficult of diagnosis, though if unsuspecte it may exist for a long time without reco nition.

(3) Goat's milk furnished to any con munity should be produced under competen supervision—especially where conditions e ist which are favorable to the spread of Mal fever.

(4) The necessity for routine serologic examination of all goat herds, whether fu nishing milk to communities or being used f other purposes, should be considered.

THE ERADICATION OF MALARIAL FEVER FROM TEXAS.*

BY

ALBERT WOLDERT, M. D.,
TYLER, TEXAS.

During the year 1922 there were more th 166,000 cases of malarial fever in Texas. T economic loss on this account was about $ 000,000. During the year 1921 there we 523 deaths in Texas from malaria. In 19 there were about 500,000 cases of deng fever (another mosquito disease), and deng it is estimated, cost the citizens of Texas excess of $5,000,000. Malaria, to some e tent, is prevalent in practically all of Tex the exception being the plains, or arid s tions, where mosquitoes do not thrive.

Accurate figures for malaria cannot quoted, for the reason that reporting t disease has not been made compulsory, b the following reports for 1922 are doubtl fairly accurate: From South Texas, Hous reported 574 cases; Cuero, 57; Beaumo 396, and Brownsville, 477. From Cent Texas, Waco reported 518 cases; Taylor,

*Read before the Section on State Medicine and Public Hyg State Medical Association of Texas, Fort Worth, May 8, 19

Temple, 52; Corsicana, 49, and Austin, 125. From West Texas, Eastland reported 2 cases, and Post City, 2 cases. From North Texas, Paris reported 101 cases; Fort Worth, 383; Dallas, 235; Sherman, 291; Greenville, 208. In East Texas, there were, at Texarkana, 365 cases; Tyler, 68; Marshall, 67; Henderson, 94, and Crockett, 108.

The disease is, of course, most prevalent in the timbered region, where the rainfall is greatest, and where vegetation and undergrowth are the most luxuriant. The history of East Texas is closely linked with the history of malaria in this State. We learn that in the early part of the year 1687, La Salle had lost his course, and with his distrustful and treacherous followers was seeking his way through the wilds of East Texas, in the forlorn hope of finding the mouth of the Mississippi River. His men became afflicted with what was then called "the disease of the country," which was probably malaria, and it has been prevalent there continuously since that time.

Along our western border, Mexico no doubt supplies us with many thousands of cases of malarial fever every year. I have tried to find out what Mexico is doing to prevent malaria, but have failed. Another source of infection is South America, the disease gaining entrance through our ports. I have not been able to obtain information as to what Louisiana, along our eastern border, is doing to combat malaria.

During the month of March, 1923, I obtained reports from physicians practicing in different parts of a certain county in East Texas. From these reports it appears that 37 per cent of the people living in the rural districts of that county have malaria every year. The population of the county is between 46,000 and 50,000. If only 20 per cent of the population have malarial fever there would be a total of 9,200 cases. If each person pays his physician and druggist an average of only $5.00, and one-third of them lose five days from work each year, and valuing the work of the individual at only $2.00 per day, a financial loss of more than $75,000 per year would be incurred. This does not include the economic loss from the low price of farm land in this section, compared with similar lands where malaria is not so prevalent. In 1922, Dr. W. H. Sory[1] found, upon examination, that of 975 school children living in towns, in Cherokee county, Texas, that 65, or one-fifteenth had malaria, while in the rural schools, 946, or about one-sixth, had malaria.

The U. S. Public Health Service has furnished me with statistics showing the number of deaths reported from malaria in different states for the years 1920 and 1921. In Alabama, there were 483 deaths; Florida, 575; Georgia, 1,021; Louisiana, 1,049; Mississippi, 1,646, and Texas, 1,090. In Texas 4,560 deaths from malaria were reported during the twelve-year period from January, 1910, to December, 1921, an average of 380 deaths per year. I wonder what the people of Texas would think and do if some strange disease would destroy 523 people within a single year, as malaria did in 1921? I wonder if they would not start out in earnest to try and prevent it in the future. The mortality from malarial fever is about one death to every 200 cases.

According to Davidson, in six communities in Trinity county, Texas, during the year 1922, there were 1,600 persons who had chills. The cost of medical attention was about $5,353. The time lost from labor amounted to approximately $24,916. There were 9 deaths.

While malaria is most prevalent in rural districts, there are around the suburbs of cities certain areas where it abounds. Thus, Carter states that a health survey made in Dallas, Texas, showed that in one of the suburbs several years ago, over 25 per cent of sickness was due to malaria.

Dealing with the problem from an economic standpoint, Van Hovenburg[2] says:

> "The high rate of malarial infection among southern railway employes plays a great part in labor conditions along these lines. A survey of railway hospitals extending over the States of Missouri, Arkansas, Texas and Louisiana, during four months of 1919, showed that at least 30 per cent of all patients entering these railway hospitals for medical treatment were diagnosed as malarial patients. This is the yearly average. During months when malaria is most prevalent, the rate will reach as high as 60 per cent."

He estimates that each case of malaria costs $50. When we consider that the railways of the Southern States employ over 2,000,000 men, we can readily appreciate the enormous, and preventable, loss. It has been estimated that malaria costs Texas more than $2,000,000 annually.

MALARIA-CONTROL WORK.

It may be laid down as a general principle that malaria-control work pays. By malaria-control work is meant ditching, draining, oiling, screening, the use of quinine, etc. Of the Southern States carrying out malaria-control measures, the following should be specially mentioned, in the order named: Alabama, Mississippi, South Carolina, Florida and

1. Sory: Annual Report of Anti-Malarial and Health Work in Cherokee County, Texas, 1922.

2. Van Hovenburg: U. S. Public Health Bulletin No. 104, October, 1919.

Texas. According to Carter, Texas so far has done less malaria-control work than perhaps any Southern State. In 1917, in his work in Texas, because of lack of interest of county officials, he was able to co-operate with the Cotton Belt Railway only, and one or two towns.

In the city of Jackson, Mississippi, 1,582 cases of malarial fever were reported in 1917. In 1918, there were only 564 cases, a reduction of 64 per cent, due to antimalarial measures. Allen states that the reduction throughout the state of Mississippi within two years was 24 per cent.

In Tyler, Texas, during the years 1915 and 1916, before antimalarial measures were employed, there were 14 deaths due to malaria. During 1918 and 1919, after malaria-control measures had been instituted, there were only 4 deaths, a reduction of over 300 per cent.

In Dallas, Texas, more deaths (27) were reported in 1916 than for the three succeeding years (26) while malaria-control measures were being carried on.

At Crossett, Arkansas, a lumber town having a population of 2,029, Deriveaux, Taylor and Haas, reported a reduction of 77.33 per cent in the number of cases of malaria, as shown by the examination of blood for malarial parasites, after malaria-control measures had been adopted. For the years 1916 and 1917, the reduction of malaria was 92 per cent. The cost of the two years work was $3,781.85. In 1916 the cost was $2,506.40, and in 1917, $1,275.45, the per capita costs being respectively, $1.23 and $0.63, and the per family costs $5.31 and $2.71, respectively, a reduction in the relative cost of the second year over the first of about 50 per cent.

At Dialville, Texas, malaria-control measures reduced the number of cases of malaria 57 per cent. At Lufkin, Texas, before malaria-control work was employed, one-fourth of the population had malaria. Afterward, malaria practically disappeared. I desire to report the same results for Tyler, Texas.

A control line along the Cotton Belt Railway about 350 miles in length, has been established. Statistics show a reduction in this strip of 58 per cent per year in the number of cases of malaria since malaria-control work was begun.

Fuchs[3] states that in nearly 100 communities undertaking malaria-control work in the last few years, the average cost the first year was about 80 cents per person, or a little over $1.00 per acre. The annual cost of maintaining the work in these towns *after* the first year averaged 20 cents per person, or 35 cents per acre. As a result of these expenditures the incidence of malaria has been reduced 75 per cent. He holds that money spent for anti-malarial work is an *investment,* and not an expenditure, and a profitable investment at that, there being profits of from 73 per cent to over 1,000 per cent.

I have obtained the opinions of several of our former State Health Officers, knowing that their wide experience had given them an understanding as to the best methods to be used in stamping out malaria. I quote the following:

Dr. Brumby says that there are only two steps practical, in his opinion, (1) a thorough system of drainage, and (2) a thorough system of screening of houses. He also suggests that bond issues for drainage districts is probably the most practical method of mosquito elimination.

Dr. Florence recommends ditching, draining, oiling, the top minnow (*Gambusia affinis*), and education of children in the schools and homes by practical demonstrations, moving pictures, etc.

Mr. Le Prince, of the United States Public Health Service, who had charge of malaria-control work in Panama during the construction of the Panama Canal, and who has had charge of the anti-malarial work in Tyler, Texas, has given me the following valuable suggestions:

"1. Form state mosquito extermination association.

"2. Form county mosquito extermination societies.

"3. Have these associations read what similar organizations in New Jersey are accomplishing.

"4. Physicians of the county should report all cases of malaria, and county medical societies should co-operate in an endeavor to get 100 per cent of the doctors of the county to report all cases of malaria. Until the medical societies wake up, the business interests will not be able to measure malaria. The State Medical Association could also co-operate in having cases of malaria reported.

"5. The doctors in a private way, as family physicians, can influence business men in malaria elimination and the consequent building and development of the malaria belt of Texas.

"6. The different chambers of commerce, and the state chamber of commerce, are a good market, but malaria extermination has not yet been sold to them.

"7. Texas until recently had less than $2,000 a year appropriation for malaria control; South Carolina had $11,000; Alabama had $8,000 a year and did work in over 200 communities.

"8. The basic difficulty in Texas is that the State Health Officer is changed each 24 months. How would a business house succeed that brought in a new, untrained manager every 24 months? It would be doomed to failure.

"9. Malaria control is a question of salesmanship. The desire for it must be sold to 90 per cent of the people of counties affected by it. Less than 1 per cent have been sold.

"10. We formerly had bad roads. The idea of good roads was sold to business men. They formed

3. Fuchs: U. S. Public Health Bulletin No. 125, September, 1922.

organizations and sold the idea to the public. Then the public demanded and got good roads.

"11. We must enlist business men in 'Texas minus malaria,' and what it will mean to development. This cannot be done by discussing malaria in medical meetings. It can be done by medical associations first by reporting malaria 100 per cent, and second, by teaching the need of reporting cases of malarial fever, to senior classes in medical schools; and third, by measuring malaria, and giving data to the public in the language of the public, with recommendations as to what the public can and should do."

Mr. Van Hovenburg, Sanitary Engineer of the Cotton Belt Railway, has given valuable suggestions, as follows:

"1. Have the Governor create an honorary mosquito commission, to be composed of, (a) the Superintendent of Public Instruction, (b) Chief of the Reclamation Service, (c) State Highway Engineer, (d) Secretary Texas Chamber of Commerce, (e) secretary or president of the Texas Federated Women's Clubs.

"2. Provision for a paid secretary to the mosquito commission, who would correlate all mosquito eradication endeavors over the State.

"3. The creation of a mosquito control fund from private subscription.

"4. Suitable legislative appropriations for personnel in the State Health Department, in order to give counties and cities professional advice in anti-mosquito work, and as a means of keeping record of accomplishment.

"5. The appropriation of State funds to match county funds for county-wide malaria work.

"6. Amend the State laws, if necessary, so that counties can appropriate funds for malaria control work.

"7. Make malaria a reportable disease and bring the influence of the State and county medical organizations to bear on the problem of making the reporting of malaria effective.

"8. Introduce and stimulate the study of malaria in all of the schools, both primary and advanced, throughout the State, particularly in rural districts.

"9. Emphasize the study of malaria in teachers' normals and summer teachers' institutes.

"10. Interest the State Associations of Rotary and Lions Clubs, Chambers of Commerce, medical societies, etc., in the endorsement of State and county appropriations for anti-malaria work, and in bringing whatever influence they can as societies or as individual members, to bear on the mosquito commission's program.

The Conference on State-Wide Malaria-Control, held at Houston, Texas, November 10, 1922, also made suggestions which would prove effective.

As to my own views, I believe the following measures, in addition to the above, would aid in bringing about more quickly the work of malaria-control in different counties in Texas:

1. Malaria-control must be done on a county-wide basis, the State co-operating, and the International Health Board helping where desired.

2. A bill should be presented to the Legislature of Texas, providing that any county in the State desiring to do so, as shown by a numerously signed petition, may carry on county-wide anti-malaria work, and making it mandatory (if possible) upon the commissioners' court to stipulate in their financial budget for the year, the necessary funds with which to carry on malaria-control work in the county.

3. Prohibit by law the present custom of removing the State Health Officer from office every two to four years.

4. Have these measures endorsed by the State Medical Association, and as many organizations as possible.

5. Have the State Board of Health co-operate with a committee from the county medical society, chamber of commerce and social clubs, in the county desiring to carry on malaria-control work, in a campaign of education. This committee should begin its campaign of education with the county judge, and each member of the county commissioners' court by sending direct to them all necessary literature. In the past, I am afraid there has been too much literature sent to health officers and too little to the commissioners' court.

6. In the event that a law cannot be secured making it mandatory on the county commissioners' court to set aside the money required for malaria-control work, then have the proposition endorsed by the State Medical Association, the county medical society, and the various other organizations above named, and have a committee make a thorough canvass of the county during the months of April or May—several months previous to the time when the financial budget is made up. In Texas, the financial budget is made up by commissioners' courts during the months from June to August. This committee should appear before the county commissioners and urge them to appropriate money for malaria-control measures. This is nothing but fair and just. The cattle and hogs have been protected, why not protect the people a little more?

Some time ago I endeavored, with the assistance of others, to get the commissioners' court in a certain county in East Texas to make appropriation for malaria control. The court heard us, and then turned the proposition down. We were told that the court did not have any money on hand for this purpose, or could not, under the law, make such an appropriation. Their financial budget for the year had already been made up. We should have made our plea months earlier. Failure to understand these things caused considerable lost motion.

HOW FUNDS FOR MALARIA-CONTROL WORK MAY BE SECURED.

I am advised that if a limited number of counties desire to carry on county-wide malaria-control work in Texas for a period of

six months, it can be done on the following basis: The total amount of money necessary to carry on the work for six months in any county will be about $5,000, of which the county must contribute $2,500, the International Health Board $1,250, and the State of Texas $1,250. The work must be done under the direction of the State Board of Health. Counties desiring to undertake this work should make their applications at once, to the State Health Officer. For the purpose of aiding counties to have malaria-control work done, the State of Texas has on hand for 1923, the sum of $9,000.

Cities in Texas appropriated the following sums for malaria control for the year 1922: El Paso, $40,000; San Antonio, $10,000; Dallas, $7,558; Houston, $5,000; Laredo, $4,200; Tyler, $2,261.08; Lufkin, $1,800; College Station, $1,500; Eastland, $1,032; Waxahachie, $1,000; Keltys, $850; Fort Worth, $300; Huntsville, $75. These cities appropriated over $75,000 for malaria control, or over 8 times as much as the State appropriated.

Cities are protecting the people from malaria where the disease is not common. Counties are making no appropriations whatever to protect the people upon the farms where malaria *is prevalent.* The people who live upon the farms some day, about election time, may want to know how their candidate for county commissioner stands upon the question of malaria-control and the protection of the public health.

THE EPIDEMIOLOGY AND PREVENTION OF DENGUE.*

BY

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It is no doubt due to the lack of mortality during dengue epidemics that so little impression is made upon the minds of the profession by the disease. It would, indeed, seem to be almost an imposition to take up the time of a professional body to discuss this subject, and yet, in 1897, 1907, 1908, 1912, 1918 and recently, in 1922, severe epidemics of dengue have appeared in Texas, and apparently were unrecognized until the disease became rather wide-spread.

In Texas we are accustomed to date dengue from the memorable epidemic of 1897, but we lose sight of the fact that as an epidemic disease it had been known for many a year before. It was apparently first discovered by Pazzio and Bylon, in the latter half of the eighteenth century, but the first clear clinical description appeared in American literature in 1828, in an article by Dickson, in which he quoted freely from the earlier writings of Rush.

The extent of the recent epidemic, and its accompanying economic loss to the State, can be only roughly approximated. The State Board of Health has estimated that from June to December there occurred between 500,000 and 600,000 cases in the State of Texas alone.

In an excellent paper appearing in the May issue of the *American Journal of Tropical Medicine,* Chandler and Rice have conservatively estimated the average cost per case for medical attention and drugs, at $3.00, and the average loss of time at five days, followed by five days of inefficiency, amounting practically to seven and one-half days of lost time. This estimate would mean a monetary loss to the State of not less than $1,500,000, plus 3,750,000 lost days, occurring in the space of a few months. No infection, however mild, which can cause a loss to a State of over 10,000 years of time, can be taken lightly.

Dengue is essentially a coastal disease, and one which we can always expect in Texas, due both to our long coast line and our subtropical location. The transmission of the disease has long been associated with the presence of mosquitoes, and all recent work has definitely proven this association is true. Since the original work by Graham, in Beirut, in 1903, the *Culex quinquefasciatus* or *fatigans,* has been commonly accepted as the sole transmitter of the disease. Ashburn and Craig, in 1907, as the result of a single experiment, corroborated the earlier findings of Graham regarding the culex. In 1918, and again in 1919-1920, Cleland, Bradley and McDonald, working in Australia, by a series of carefully controlled experiments, both on human beings and the lower animals, proved that insofar as the Australian epidemic of dengue was concerned, the *Stegomyia calopus,* now known as *Aëdes aegypti,* was the mosquito transmitting the infection. In four out of seven experiments with the *Aëdes aegypti* they were successful in transmitting the disease from one patient to the other, while all three experiments with the culex were failures. Reports from other parts of the world have also thrown considerable doubt upon the *Culex quinquefasciatus* as a vector of the disease, and have strengthened the belief that the *Aëdes aegypti* should have this added to his score. Chandler and Rice also were successful in transmitting the disease to non-immune individuals by the bite of the *Aëdes aegypti.*

That Texas was plagued during the past summer by innumerable hordes of stegomyia

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is common knowledge, and the association of dengue with the presence of these mosquitoes is hardly one of coincidence. Scott, in reporting the Louisiana epidemic, noted an overwhelming predominance of the *Aëdes aegypti* within the houses of patients suffering from dengue. A report of Mr. E. W. Steel, Sanitary Engineer for the International Health Board, engaged in antimalarial work, relative to the prevalence of *Aëdes aegypti* and *culex quinquefasciastus*, and the incidence of dengue in towns in East Central Texas, is included in the article by Chandler and Rice, referred to above, and is given here as follows:

"*Navasota.*—Aëdes present in appreciable numbers throughout the summer. For several weeks in September it was undoubtedly the predominant species. Thereafter, culex assumed the lead. Probably one-third of the inhabitants of Navasota had dengue.

"*Hearne.*—Aëdes and culex both present, probably in equal numbers. Incidence of dengue about thirty per cent.

"*Rockdale.*—Aëdes present; culex predominant. Dengue incidence about forty per cent.

"*Gladstell.*—No Aëdes. Very few culex. Psorophora ciliata occasionally seen. No dengue, except two cases, whose history showed that they were contracted elsewhere. In the town of Cleveland, three miles away, practically everyone had dengue.

"*Livingston.*—Aëdes present. Dengue incidence about forty per cent.

"*Trinity.*—Aëdes present in small numbers. Six cases of dengue occurred in the family of the hotel keeper, and among permanent boarders at the hotel. Was never able to find any Aëdes in or around this hotel. Culex numerous. Dengue incidence throughout the town, thirty per cent. Reports by the local mosquito man show that dengue was more prevalent in the negro section, where water barrels were most abundant.

"*Groveton.*—Aëdes present; culex predominant; Psorophora ciliata also collected at edge of town. Dengue present in Groveton, but have no figures as to prevalence.

"*Terrell.*—Aëdes and culex present in great numbers, with Aëdes predominating. Dengue incidence about ninety per cent.

"*Denton.*—Aëdes present. Dengue incidence about one-third.

"*Austin.*—Aëdes present. Dengue incidence about twenty per cent."

Analysis of this report shows very conclusively that in the recent epidemic at least, the *Aëdes aegypti* was undoubtedly the most prevalent and most likely vector.

The more or less persistent belief that dengue is in some way related to yellow fever, or that yellow fever frequently follows dengue, seems to be due to unguarded statements on the part of physicians. The similarity in the epidemiology of the diseases is probably the basis for this belief, and in recent years the mass of evidence which has accumulated proving that both diseases are conveyed by the same species of mosquito, may also explain this current belief. Chandler and Rice have most conclusively demonstrated by a large series of cultural microscopical and inoculation experiments, that the organism of dengue is not a leptospira, or, so far as they were able to determine, not due to any known protozoan form. This would also help to dissipate another conjectured similarity in the two diseases.

MeGaw in India and King in America, have distinguished four different types of dengue: (1) The Evanescent type, with only a slight attack of fever, corresponding with one variety of the old febricula. This type could hardly be recognized except during an epidemic. (2) The Interrupted fever type, and (3) the Saddleback type, are very similar, and are the types usually encountered in an epidemic. (4) The Continued fever type is rather rare, and does not show the remissions or intermissions of temperature so common in the usual forms. To these may be added similar diseases under other names, such as the Seven Days' fever of India, which is now considered to be a form of dengue.

The occurrence of these varieties of the disease with other dengue-like fevers in different parts of the world, would suggest that it is possible for forms of the culicidae other than the *Aëdes aegypti* to transmit the disease.

In considering the prophylaxis or prevention of such a disease as dengue, the problem naturally resolves itself into the more or less simple statement, get rid of the mosquito. Even the most sanguine health official will hardly expect such a utopian state as complete freedom from mosquitoes in such a State as ours. In malaria and yellow fever we have examples of the value of preventive measures. The problem of malaria is somewhat different from dengue, due to the different habits and breeding places of the anopheline mosquitoes.

The results obtained in yellow fever would be more analogous to what we may expect against dengue, as I think we may accept as fairly definitely proven, that the vector of dengue is the *Aëdes aegypti.*

Dr. J. H. White's success in stamping out an epidemic of yellow fever in New Orleans during the mosquito season, is near enough home for us all to remember and profit by. His efforts, however, were aided by the dread the disease inspired in the minds of the people. Their co-operation was thus more easily obtained and held. From a public health standpoint we might almost wish that dengue were more fatal, as it would seem that only by a few deaths from a disease can the public be aroused sufficiently to make any health measures effective. The local measures to be employed with the appearance of the first cases in a community, namely,

isolation and screening, are so obvious as hardly to need mention.

Mosquito control and elimination is, of course, a problem of sanitation, as distinguished from one of hygiene; but when we consider the habits of the *Aëdes aegypti*, hygiene, to my mind, would seem to enter into the problem. A few careless, dirty individuals in a community can, by leaving vessels containing water standing around the house and in the yards, or under the house, nullify any campaign directed against a house-bred mosquito.

To sum up, it would appear from the evidence at hand that dengue is most probably conveyed by the yellow fever mosquito, the *Aëdes aegypti*, and its prevention rests entirely with the public. An enlightened policy on the part of public health officials, together with administration by trained sanitarians, will accomplish results. In other words, the activities of a few individuals can secure all the benefits arising from adequate sanitation to a community without the very active co-operation of the individual citizen. With dengue, to this must be added the factor of personal hygiene, which can be effectively promoted only through the aroused interest and education of the individual. This stage will arrive slowly, and it may require the span of one or two generations before hygiene attains the position occupied by sanitation at the present time—but it is only then that we can hope for an eradication of such infections as dengue.

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Owl Enamel Toilet Cream.—This preparation, manufactured by the Owl Drug Co., (Kansas City, Mo.) is sold for the alleged purpose of "Beautifying the Complexion and Rendering the Skin Soft and Velvety." Dr. Henry W. Woltman of Rochester, Minn., has reported a case of lead poisoning in a woman who had been using Owl Enamel Cream. The A. M. A. Chemical Laboratory analyzed the product and found it to be composed essentially of lead carbonate, calcium carbonate and glycerin. The indiscriminate sale of a preparation of this sort is not merely a menace to the public health but a commentary on the laxity of our laws. It is notorious that certain salts of lead have for years been responsible for cases of chronic lead poisoning, due to their employment in cosmetics. In spite of this, any concern, responsible or irresponsible, can sell for indiscriminate use a cosmetic loaded down with poisonous ingredients.—*Jour. A. M. A.*, April 7, 1923.

THE RELATION OF THE PURIFICATION OF MUNICIPAL WATER SUPPLIES TO THE PUBLIC HEALTH.*

BY

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Clear, odorless water for drinking purposes has, no doubt, been appreciated from an anesthetic viewpoint by the human race since the dim, dark ages. No great degree of scientific knowledge is required to discriminate between a clear, colorless, odorless drinking water and one that is turbid and foul. Among the ancient people some thought at least was given to the matter of water supply. This was especially true in the arid and semi-arid regions, where quite extensive provisions often were made for securing and storing supplies of water, to be drawn upon as required. Springs always were popular, and wells of ancient construction may be found today in India and Egypt, having served their purpose for thousands of years. The historic Joseph's well at Cairo, Egypt, is possibly one of the most famous among ancient wells, being 297 feet deep and excavated in solid rock.

Our early ancestors were of a roving, nomadic type. Home sanitation was then not considered urgent, and no permanent provisions of this character were provided. Later, as the world's population increased, trade centers were established, and these eventually grew into towns and cities. With the concentration of considerable numbers of people in comparatively small areas, the problem of water supply and sanitation grew more difficult in proportion. Cities must of necessity be located on some stream, lake or near the sea. Hamlets established far from any lake, flowing stream or ocean, will never attain to the dignity of even a moderately sized city. Drainage is an important factor in locating and developing a town. This fact was thoroughly recognized by ancient city builders.

It might be significant to note that before the advent of modern methods of water distribution and disposition of human wastes in a city, the per capita consumption was very low. Up until 1550, the people of Paris, France, used only one quart of water per person daily. At the beginning of the eighteenth century the rate of consumption in that city had increased to two and one-half quarts per day. It is, of course, easy to imagine that with such small volumes of

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water used, personal cleanliness must have been of secondary importance.

With the increase in size and number of permanently established cities, the problem of supplying inhabitants with pure and wholesome drinking water became more and more difficult. Wells and springs could not supply the increasing demands; other sources of supply must be found. Lakes and streams were not only the most logical, but with few exceptions the only available sources from which the constantly increasing demand could be satiated. Gradually advancing ideas of sanitation complicated the problem in two ways: A greater volume of water was required per capita and the streams and lakes were being more grossly polluted. Ancient Rome, a pioneer in the matter of municipal sanitation, attempted to solve the situation by installing three separate water systems. D'Avigdor, in his "Water Works of Ancient Rome," writes as follows:

"The Romans possessed three almost independent services for which they used water of different degrees of purity. The least clear and most loaded with sand such as the Anio aqueduct supplies, was used for public baths and the watering of streets; the clearer water from Tepula served for tanks, fountains and washing troughs; while the very best from Virgo and Claudia was confined to drinking purposes, and these springs were undefiled even after the heaviest rains."

The water was conducted to the city and distributed through nineteen aqueducts, which had been constructed by slave labor between 321 B. C. and 305 A. D. The total length of these conduits and equeducts was 381 miles.

Because of the limited time for this discussion, I will be compelled to omit much interesting medieval medical history, regarding the devastating epidemics which from time to time almost exterminated entire tribes and armies at war with one another. Historians in many instances agree that the scourges which ravished the people during the middle ages, were often caused by polluted water. I will confine the discussion to more recent periods.

The three principal water-borne diseases are Asiatic cholera, typhoid fever and several forms of dysentery. As these are diseases of the intestinal tract, fecal discharges can easily cause soil pollution, and the organisms causing the disease may readily be carried into lakes and water courses by rains on their respective water-sheds. Modern sanitary plumbing furnishes a direct method of transporting these disease-producing bacteria from patient to streams or lakes near our inland cities.

During the latter part of the nineteenth century, data concerning numerous water-borne epidemics of Asiatic cholera have been recorded, prominent among these being the famous Hamburg epidemic of 1886, when 114,000 persons succumbed to the dreaded scourge. The city at the time was using water pumped directly from the river Elbe, which was contaminated by the sewage of nearly 900,000 people.

Dr. W. P. Mason, in his work on water supplies, writes as follows:

"In 1887 the city of Messina, Sicily, suffered an epidemic of cholera during which 5,000 cases and 2,200 deaths resulted. An investigation showed that the water diverted from a conduit, conveying water to the city ran into pools which were used for washing soiled clothing by the Messina washerwomen. Much of this water found its way back into the open conduit and passed into the city. It was also found that the unglazed tile used to distribute the water in the city was broken and that leakage from joints was common. Sewers laid on top parallel with the water mains were in like condition and offered excellent opportunity for further contamination. After a supply of pure water carried in tank ships from the mainland was provided for drinking water, the epidemic ceased at once.

"A similar outbreak of cholera in 1884 in Cuneo, Italy, which resulted in 3,344 cases, was traced to a like cause, washing infected clothing in a brook emptying into a public water supply."

Instances of water-borne typhoid and dysentery epidemics are probably more numerous, although they have not been attended by as many fatalities. Mr. C. A. Jennings, in his recent article on the "Disinfection of Public Water Supplies," chronicles the following:

"Shortly after Christmas, 1885, a man living above the city of Plymouth, Pa., returned home and took to his bed with typhoid fever. His excreta, unsterilized, was deposited upon the snow-covered banks of a mountain brook which emptied into a lake or reservoir from which the water supply of Plymouth was obtained. In March, there occurred the annual spring thaw and the excreta entered the brook and then the reservoir. The result was an epidemic, causing 1,000 cases of typhoid fever and 114 deaths in this town with a population of only 8,000. One person out of every eight had typhoid and one out of every 70 died from it."

At Bloomington, Illinois, the Chicago & Alton Railroad shops had a cross connection with the city water supply. On one occasion the creek supply failed and they pumped for industrial purposes from a 33-inch outlet sewer, the contents being a mixture of sewage and creek water. The check valve between the two systems did not seat tightly and the grossly contaminated water entered the drinking water system and caused 400 cases of dysentery, 153 cases of typhoid and 21 deaths. It is estimated that the damages ultimately to be paid by the C. & A. Railroad Company will exceed $175,000.

The water supply of Lansing, Michigan, is obtained from five different wells, in different sections of the city, all wells being about

450 feet deep. The mains are all interconnected. It seems that one of the wells had a leaky casing in the summer of 1919, when the river was high. The high river backed up one of the sewers, and sewage leaked out through the joints of the sewer pipe. This sewage permeated the soil and found entrance into the suction pipe of the deep well. The entire city water distribution system became contaminated and 3,000 cases of dysentery, 82 cases of typhoid and 11 deaths resulted.

The population of Salem, Ohio, is 10,000. During October and November, 1920, there were 6,000 cases of dysentery, 900 cases of typhoid fever and 50 deaths. The water supply was from wells and had always been considered above suspicion. Sewage found access to an abandoned pipe leading to the suction well, and so contaminated the entire system.

From the above citations it will be seen that the toll of human lives due to water-borne diseases has been enormous.

In order that a disease may be combated successfully and effectively, it is necessary that the cause or specific organism responsible for the disease is known and can be identified and isolated. This is the fundamental principle of preventive medicine. Probably in no associated branch of the science of medicine has greater progress been made during the past forty years than in the development of bacteriology. Exactly forty years ago Koch discovered the spirillum of Asiatic cholera in the intestinal contents of persons sick with the disease. The *Bacillus typhosus* was isolated by Eberth in 1880, from the mesenteric glands and spleen of persons dying from typhoid fever. A few years later it was definitely established that this bacillus was always the cause of the disease. During a very severe epidemic of acute dysentery in Japan, in the year 1898, Shiga, the famous Japanese bacteriologist, isolated a bacterium from the stools of patients which was, in many respects, similar to the *B. typhosus*. Shiga's bacillus is now generally recognized as the specific organism of the acute epidemic form of dysentery quite common in the temperate regions. Certain forms of chronic dysentery, especially prevalent in tropical countries, are caused by amebae, protozoans which represent the lowest group of animal life.

After the specific organisms causing the several common and dangerous water-borne diseases had been identified and isolated, and their source and presence in many municipal water supplies had been definitely established, the problem of eliminating them presented itself.

The sanitary engineer must not only study the sanitary features of the work intrusted to him insofar as they may pertain to the public health, but he must always seriously consider the cost and practical side of all projects that come before him. So, then, in the matter of safeguarding public water supplies much thought and effort was expended in the endeavor to prevent the contamination of municipal water supplies. This would seem the ideal procedure. Experience has, however, taught us that although much has been accomplished along this line, the practical results obtained are such that additional safeguards must be provided to secure for our urban population, who must use surface water, a safe and wholesome supply. The monetary cost of absolutely sterilizing all sewage entering streams and lakes and of otherwise preventing contamination, proved too great.

While engineers and sanitarians worked on the problem of sewage disposal, water chemists and bacteriologists concerned themselves with devising various methods of water filtration and disinfection. To say that their efforts were crowned with success is putting it modestly, indeed. It was found that water was easily clarified by such chemicals as lime and iron sulphate or aluminum sulphate. Coagulation and settling basins and filters were designed to suit local conditions, and water delivered from such plants could be made to be clear, odorless and satisfactory from an aesthetic viewpoint. It was found, however, that while the percentage of bacterial removal was high, all pathogenic organisms were not destroyed or removed. Various methods of water disinfection were then experimented with. Prominent among these were the ozone, calcium hypochlorite, and liquid chlorine processes. Because of its practicability, cheapness and efficiency, liquid chlorine is used now almost exclusively. Continued experiments and observations have shown that all pathogenic types of bacteria found in surface waters are easily and totally destroyed by quantities of the gas so minute that the physical qualities of the water will remain unaffected.

Public health statistics show that after a municipality using a surface water supply has purified the water according to modern methods, the typhoid death rate declines at once. Dr. John Dill Robertson, Commissioner of Health, Chicago, in 1919, reports the experiences of his city in the following statement:

"For the period 1906-1911 before disinfection, the average annual death rate was 14.9 per 100,000. During the year 1912-1916 while experimenting and equipping the stations with chlorinators, the rate dropped 50 per cent, to 7.1. For the years 1917-1920

inclusive, while sterilizing the entire water supply continuously, the rate has been 1.35, placing Chicago in a very enviable position. It would seem that water-borne typhoid fever has been practically eliminated in Chicago. Sanitarians feel that there is a certain 'residual' amount of typhoid fever which may occur in cities with absolutely pure water supplies. Chicago has approached or has possibly reached that stage."

The population of Chicago is approximately 2,000,000. The saving of human lives because of the decrease in typhoid deaths is, therefore, considerable.

With the advent of water purification in a city, other water-borne diseases practically disappear. We must remember, however, that such diseases as cholera and dysentery, and gastro-intestinal disorders, may be and are communicated through mediums other than water. Mr. Allen Hazen, after having collected and studied numerous mortality statistics, enunciated the theorem: "Where one death from typhoid fever has been avoided by the use of better water, a certain number of deaths, probably three, from other causes have been avoided."

Many other cities have had experiences similar to Chicago. Too often, however, the matter of purifying and disinfecting the water is put off until an epidemic is visited upon the people. With the present day knowledge of the results obtainable through the purification of water, such delay should be considered not short of criminal negligence, and those responsible should be held to the strictest account.

PRESENT STATUS OF TEXAS DRINKING WATER SUPPLIES.*

BY

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The files of the State Board of Health contain data on 370 of the approximately 500 public water supplies in the State. The origin of these supplies is from surface, ground or mixed sources. There are 76 surface supplies. Of these, 25 are filtered, 29 are settled, 18 are chlorinated and 14 are served raw. Of the 263 ground supplies, 19 are chlorinated, while of the 12 mixed supplies 3 are filtered, 5 are chlorinated and 4 delivered raw to the consumers.

The population served by these 370 public water supplies is two million. Of this population, 43.8 per cent drink untreated water. A large number of the untreated ground water supplies, fortunately, are still hygienically safe. The population served by supplies that are occasionally or intermittently unsafe, has not been estimated.

Laboratories are maintained and water is supplied to consumers under daily bacteriological control at the following places: Dallas, Fort Worth, Waco, Wichita Falls, Breckenridge, Corpus Christi, Austin, Gulf and Longview. Weekly analyses are made at Brownwood, Weatherford, Tyler, Temple, Cameron and Robstown.

During the past year, 64 water works improvement projects, involving an expenditure of six and one-half million dollars, came under the observation of the Sanitary Engineering Bureau.

With a dry summer we may again anticipate a shortage of water in several communities. We may also look for a repetition of taste and odor troubles, following warm weather in those reservoir supplies in which no provisions have been made to control *algae*.

Extensive oil drilling activities in certain sections of our State have created a hazard to some of our water supplies, due to the indiscriminate discharge of oil-well waste and salt water, and to the faulty plugging and casing of abandoned wells.

It is hoped that a recent amendment to the so-called Anti-Stream Pollution Act, will permit the control of oil-well waste in the future.

Under the provisions of the so-called McFarlane Water Act, it is made the duty of each city and county health officer to have the public water supply in the territory under his jurisdiction tested at least once a year It is also made the duty of the water companies to provide the necessary apparatus for producing safe water; and failure to carry out the provisions of the Act is made a misdemeanor, punishable by a fine in any sum not to exceed $500 for any one offense. This act is applicable only to towns having a population of 5,000 or less. The purpose of this act has been defeated by water companies by merely printing on their bill heads that the water sold by them was not intended for drinking purposes.

Our authority for controlling water supplies is secured from the broad, implied provisions for protecting health in the bill creating the State Board of Health.

While an effective law controlling the water supplies is desirable, nevertheless considerable improvement in the quality of water delivered to the public has been obtained as the result of our short schools for water and filter plant operators, together with the moral suasion that the Board has been able to exercise. Fewer deaths from typhoid were reported to the Bureau of Vital Statistics in 1922 than in preceding years.

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The Federal Quarantine law which regulates the quality of water used in interstate Commerce has also been found useful in bringing about improvements. The enforcement of this regulation has been imposed upon the State Health Department, and out of 175 railroads, forty have met the United States Public Health Service standard.

The State Board of Health has only one engineer to devote his time to the protection of the Texas water supplies, whereas four are needed to cover this phase of public health conservation efficiently.

Recommendations for the safeguarding of our public drinking water supplies may be summed up as follows:

1. All surface water supplies should be properly treated before delivering to consumer.
2. Water supplies obtained from rivers should be under daily bacteriological control.
3. Water plants subject to inundation should be protected against overflow.
5. Water and filter plant operators should possess the requisite qualifications for insuring a safe water.
6. The McFarlane Water Act should be revised to make it effective.
7. The manufacture of alum in the south should be encouraged, so that the cost of water purification may be reduced.
8. Additional engineers should be provided, in order that water-borne diseases may be reduced to a minimum.

STOCK POISONING PLANTS OF THE RANGE.*

BY

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When, some years ago, I was asked by the United States Department of Agriculture to take up the work of investigating poisonous plants, one of the first pieces of work was to gather together such information on the subject as had already been printed. It was a surprise to me to find how many extended works had been written upon this subject, which is one about which most people have very little information. It was also a surprise to find out how little of this information was really modern. While, of course, there are many articles in our journals upon the effects of certain poisonous plants, yet most of these articles, when examined carefully, will be found to be mainly repetitions of statements made by other authors, and when these statements are traced back to their origin, it is sometimes found that they go not only many years, but sometimes many centuries, back of the present.

Comparatively little work in the actual investigation of the effects of these plants has been done in modern times. Moreover, the older authors treated very largely of European plants. Some of these plants, of course, are common to the eastern and western continents, but the flora of the two continents is by no means identical. The monumental work of Professor Pammel, in his "Manual of Poisonous Plants," has brought together in a valuable form most of the recorded information. It is curious, however, to what a large extent we are indebted for the knowledge of these plants to the older authors. For example, perhaps the best recorded account of the symptoms produced by the water hemlock, *Cicuta*, was written in 1679. Some of the best experimental work that has ever been done on the ordinary poison ivy was done in the eighteenth century. Many more examples could be brought of the same kind. It is also noticeable that many of the older writers on the subject of botany made it a point to describe the medicinal and toxicological properties of the plants which they were discussing. In fact, the use of medicinal remedies derived from plants was probably much more common in the middle ages than at the present time. It seems rather singular that modern medicine uses comparatively few of these plant extracts, although some are recognized as among the most necessary constituents of the physician's supply of remedies.

FIG. 1.—The Whorled Milkweed (Asclepias galioides). FIG. 2.—The "Coffee Bean" (Daubentonia longifolia).

In the history of medicine there have been some very interesting changes. Certain schools of medicine have depended very largely upon plant remedies, and I am under the impression that there is at the present time a swing of the pendulum toward the wider use of these substances. While much has been expected as the result of our mod-

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ern, more exact knowledge of chemistry, and it has sometimes been supposed that synthetic remedies might take the place of recognized plant extracts, our later knowledge leads us to think that it is possible that nature's laboratory has produced substances which can not be exactly duplicated by any synthetic process. It is a somewhat curious

FIG. 3.—Low Larkspur (Delphinium menziesii). FIG. 4.—The Plains Larkspur (Delphinium virescens).

fact, too, that the use of these remedies is so largely based not on a knowledge of their constitution and the logical results which should follow from their use, but upon experimentation by the trial and err method. While we boast of the results of modern science, it is a fact, nevertheless, that most of our remedies are not used in a theoretical way, but are used because of the known results from their application.

Now, inasmuch as very many of the so-called poisonous plants may well be expected to have value as remedies for the physician's use, it follows that any exact addition to our knowledge of these plants is valuable, not only because of helping the stockmen to avoid losses, but because it may give data for the physician from which later we may hope that valuable remedies may be found. In the present work, which is carried on by the Bureau of Animal Industry in relation to animals, the aim has been to find out by experimental means what plants are poisonous, to determine the symptoms and effects by exact experiments, including clinical examinations and studies of microscopic changes produced by the poison, and also to determine the chemical constituents which are responsible for their effects. The work which has been carried on by the Department of Agriculture for the past few years, while not as thorough as could be wished, has yet determined certain facts with a great deal of exactness, and as the years go on and the work is extended more and more, it is hoped that the results may be of value for the general sciences of toxicology and pharmacology as well as for the practical help in regard to the handling of animals.

We are trying to carry on these experiments, so far as possible, in localities where poisoning takes place, and with the special type of animal which is supposed to be affected. In ordinary laboratory pharmacological work certain errors almost invariably creep in. It is very important for us to know, for example, the effect of a given plant extract upon guinea pigs, or rabbits, or mice, or similar small animals, and from this form of experiment we can readily determine the character of the extract. It must not be assumed, however, that the effect of the plant will necessarily be the same upon all classes of animals. By experimental work it has been found that in many cases a plant which is harmless to one animal will be fatal to another, and that a plant which affects one animal very slightly may be extremely poisonous to another. In regard to larkspur poisoning, this has been a matter of very great interest, for it has been found positively that the larkspurs are deadly for cattle but do not ordinarily affect horses, and, strangely enough, have no effect upon sheep, in spite of the fact

FIG. 5.—"Pingue," or Colorado Rubber Plant (Hymenoxys floribunda). FIG. 6.—Rayless Goldenrod (Isocoma wrightii).

that sheep have the same general type of anatomy as cattle.

It is, of course, evident that in our work upon animals we have a decided advantage over the physician, who must experiment with human beings. We do not have to take the same care; we can carry on the experiment until the animal dies, without having any particular feeling of responsibility, and we can determine the results by the average of a large number of cases instead of depending upon a few, as is the case when the physician tries out a remedy. In our work we do not consider that we have proved the character of a plant until we have the average of a very large number of cases, some of which, as a

matter of fact, may show little effect, while others are severely poisoned.

IMPORTANCE OF POISONOUS PLANTS TO STOCKMEN.

The losses from poisonous plants upon our western ranges are very heavy, and this has been known for a great many years. In many cases the plants causing the trouble are entirely unknown, and the man handling cattle or sheep simply knows that when the animals are grazing upon certain areas he loses large numbers; the cause may be beyond his comprehension. This, of course, is not always true, because many stockmen are good observers, and in some cases they have correctly located the trouble. It is, however, somewhat difficult to take the testimony of the average stockman in regard to these cases, for many of them report simply guesses, or accounts which they have heard from other people, and when these statements are analyzed they may be found to be entirely without foundation. On the other hand, it is never safe to ignore common belief among stockmen, for frequently it is based on facts which can not be controverted.

Generally speaking, animals upon the range do not suffer largely from contagious diseases. There are certain things, of course, like blackleg, which take away many animals, but many of these infectious diseases have been traced to their origin and now, by proper means, the losses can be avoided. I think it is safe to say that the losses from poisonous plants form perhaps the greatest handicap to the handling of animals upon the ranges. Of course, there are losses by predatory animals, but on the average I doubt if they are as important as those from plants.

It is not at all unusual for several hundred sheep to die within 24 or 48 hours, and it is not at all unusual for tens and hundreds of cattle to become victims. As a matter of fact, horses are not nearly so likely to become affected by poisonous plants, partly because they are more careful feeders than the other animals and partly because they are less apt to fill themselves up in any particular locality. The losses of sheep have been much heavier than those of cattle, because of the way in which sheep are handled upon our western ranges. They are ordinarily kept by a herder, are moved from place to place in rather close formation, and frequently eat down the vegetation where they are feeding so closely that poisonous plants are taken as well as the more valuable forage.

FIG. 7.—Blue Loco (Astragalus diphysus).

FIG. 8.—Purple or Woolly Loco (Astragalus mollissimus).

FIG. 9.—White Loco (Oxytropis lamberti).

It may be stated, in this connection, that the major part of the losses by poisonous plants are occasioned—not caused, but occasioned, by a shortage of proper forage. It is true of most poisonous plants that they are distasteful to our domestic animals, and they are eaten only when other material is absent. It follows that where animals are kept on a range with abundant forage, losses from poisonous plants may be very slight indeed, but when they are kept in a condition of semi-starvation because of the short range or are driven over areas where forage is very scarce, of course they will take poisonous plants through lack of anything better.

Because of the importance of this subject to the western stockmen, the work of the Department of Agriculture has been very largely directed to the poisonous plants of the west. It must not be supposed, however, that the east does not have such plants, for there are many on the Atlantic border and in the middle states, but because of the different manner in which the animals are handled and because of the greater abundance of the forage, the losses are small as compared with those of the west.

In the time which I can reasonably use, I can treat of comparatively few plants. I

think it best to give a brief description of those that are particularly important to this immediate region (the states of Texas, New Mexico, Arizona and the bordering country of Mexico).

FIG. 10.—A field of white loco (Oxytropis lamberti), in blossom.

Asclepias Galioides.—There is a milkweed, known as the whorled milkweed (Fig. 1), which is fairly abundant in the states of New Mexico, Arizona, Utah and parts of Colorado, which has turned out to be a plant of peculiar interest. It is only a few years since this has been recognized as a poisonous plant, although we had heard for many years of poisonous milkweed. It was generally supposed that the milkweed referred to was the ordinary, broad-leaved milkweed, common in so many localities. This narrow-leaved milkweed is a dry-land plant, but adapts itself very readily to irrigated regions, where it grows in great abundance. The roots of the plant bear buds, so that new plants start from many of the broken pieces of root. It follows that ploughing or disking a field of this plant will serve very largely to cultivate it rather than to destroy it. The plant is interesting because it has turned out to be surprisingly poisonous. Two or three ounces is sufficient to kill a sheep, and corresponding quantities will affect horses and cattle. The animals are thrown into convulsions—convulsions resembling the effect of strychnine. It has been shown that the effect upon sheep and upon cattle is exactly the same. As a matter of fact, the losses have been very largely of sheep, although many losses of cattle also have been reported.

Daubentonia.—In the southern states and extending into the eastern part of Texas, is a plant commonly known as the coffee bean (Fig. 2), a leguminous plant with pinkish flowers and fairly large pods carrying the seeds. This plant grows in very great abundance. I have seen it around Houston (Texas), covering the vacant lots on the outskirts of the city. This plant has been shown to be very poisonous to sheep and to goats, and its berries may have poisonous effects upon other animals as well.

Delphinium.—Of all the plants poisonous to cattle, probably the larkspurs are the most dangerous. There are a number of varieties of larkspur, but all, so far as they have been examined, have the same effect. About 30 pounds of the plant to the thousand of animal, will kill a steer, if the plant is eaten in a sufficiently short time. The aconite has a leaf of almost exactly the same form as that of the larkspur, and is frequently confounded with it. The flower, however, is very different, having the typical monkshood form. The aconite is a poisonous plant, but so far as we know never poison cattle on the range. Figure 3 is the low larkspur in Colorado. This grows over a wide extent of territory, and is just as destructive as the tall larkspur. Figure 4 is a picture

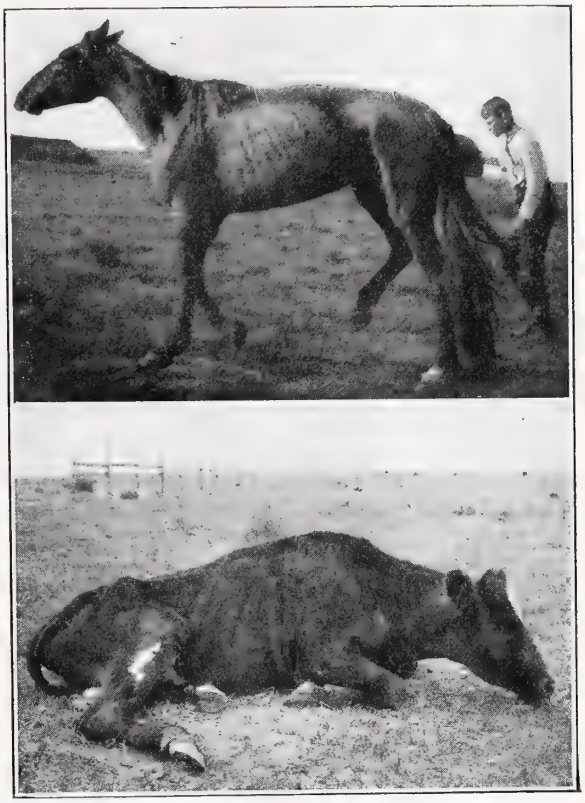


FIG. 11 (above).—A locoed horse.
FIG. 12.—A locoed steer in the last stages of the disease.

of a white-flowered larkspur, which grows in the plains region from Colorado south into Texas, sometimes in considerable quantity. This has not been recognized as particularly dangerous, but it sometimes kills cattle. Animals poisoned by this weed generally show discomfort, stepping about uneasily. They eventually fall and may remain down a few minutes, when they get up, walk away, only to fall again. If the poisoning

is severe, this falling may be repeated a number of times until finally the animals stay down, fall upon the side and vomit, when they are almost certain to die. I may state that it has been found that a hypodermic dose of eserine with a little strychnine, is almost a specific for larkspur poisoning.

Hymenoxys.—In northern New Mexico and in southern Colorado, there is a very interesting plant, known commonly as the Colorado rubber plant or pingue. (Fig. 5). This has, in time of shortage of forage, killed a great many sheep. In the base of the plant there is a rubbery substance, and it is generally supposed that the animal, in masticating, separates the rubber, with consequent intestinal obstruction. This, apparently, is not true. It has been shown that the plant is poisonous and kills a great many animals.

Isocoma.—We have recently studied in some detail the plant known as the rayless goldenrod, (Fig. 6), which is particularly common in the Pecos Valley in Texas, and in New Mexico. It grows in great abundance in the irrigated regions, and is especially common from Carlsbad south. In this region there has long been known a disease of animals commonly called the "alkali disease," which by many was supposed to be caused by the alkaline water common in the region. It is also known under the name of "milk sickness." Some researches have led authors to believe that this disease was caused by a germ, which has received a name. It has been found, as the result of somewhat careful experimental work, only a little of which has been published, that without any doubt alkali disease is caused by this plant, known as the rayless goldenrod; and it is also known that the plant is fairly easy of eradication. One of the noticeable symptoms of poison from this plant is trembling, from which the disease has sometimes been called "the trembles". There is reason to think that it affects the milk, and that suckling animals are killed by reason of poison obtained through the milk.

Loco.—Of all the poisonous plants in the Southwest none are more interesting and about none has more been written, than the group known as the locoes, The word "loco" is the Spanish for crazy, and the symptoms exhibited by the animals result from lesions of the central nervous system, which lead to staggering, falling and various forms of illusions. For a long time it was not known definitely what the loco plant was. A number of plants were suspected, but none definitely proved to have these properties. We now know that there are several, and we suspect there are several more. Figure 7 shows the most common form in Arizona, but it passes into New Mexico, Colorado, Utah and Nevada. It is commonly called "blue loco," or *Astragalus diphysus,* and has long been known as a horse-poisoning plant, but in more recent years it has been found to cause heavy losses of cattle. Figure 8 shows another loco plant not generally recognized. It is a coarse plant, grows quite high, and probably is not ordinarily eaten by animals, but occasionally it may be, and in such cases is pretty certain to poison.

The Purple Loco.—This is sometimes known as the Texas loco, and it is probably the first plant recognized as a loco plant. The leaves are somewhat hairy, and the flowers are not as conspicuous as in the case of some others. It is a small plant, growing upwards of a foot in height. This loco affects particularly horses—cattle are rarely, if ever, poisoned by it.

The most common of the loco plants is the white loco or rattle weed, (Fig. 9), as it is known in Colorado and Kansas—a plant with a blossom ordinarily white, although in some regions it is pink. Notice the leaves are much narrower than those of the purple loco. This plant grows in very great abundance and is widely distributed. Figure 10, (taken in Montana), shows how thickly the plant grows, the land at a distance looking as though it were covered with snow. This figure shows the distribution of the white loco. In the plains region it affects cattle, horses and sheep, and while perhaps not the most poisonous, it is by far the most destructive of all the loco plants.

I may say that animals frequently get the loco habit. Most poisonous plants are not eaten by choice, but after an animal eats considerable loco it may get the habit and eat nothing else. Death is very generally from starvation; that is, the animals continue to eat loco until they get to a point where they will eat nothing, will not even go to water, and fall from weakness. Figures 11 and 12 show animals poisoned by loco plants. The habit of loco eating causes animals to shy. They do not seem to have the power of judging distance.

Locoed horses, while they may recover, as a matter of fact are never as good as before. The effect upon the central nervous system is such that they lose their intelligence and their activity. Cattle, if properly fed and treated with strychnine, can be made entirely suitable for the market, but it is a very good idea to sell them right away.

Quercus.—There is another form of poisoning that occurs rather generally in Western Texas, and that is the oak poisoning—shinnery poisoning, as it is called in Texas. We found from our work in Utah that there is a

good deal of poisoning by the Gambel's oak, which grows there abundantly, and investigation of the shinnery poisoning shows that the same thing occurs in Western Texas. This oak poisoning, both in Utah and Texas, has been shown, perhaps, not to be strictly poisoning, but the result of an exclusive diet of oak. If the animals can be given other forage with the oak, they are not likely to be damaged. We have found that a very few pounds of hay a day will prevent injurious effects from the oak, and there is no question whatever that, so far as the shinnery in New Mexico and Texas is concerned, if animals are properly fed there is no danger.

Stipa vaseyi.—This plant is of peculiar interest in this region—the so-called sleepy grass, which affects particularly horses. This grows, and has done its harm to a large extent, in the Sacramento Mountains in New Mexico, but it is found also in Colorado and California. Although there is little exact knowledge about this plant, beyond the general fact that it does produce a narcotic effect upon animals, a question has been raised whether it may not be used in medicine, and I imagine that in the future it may.

I regret that it is necessary to go over my subject so hastily. It will be appreciated that more is omitted than is said. It seems better to go rather rapidly over a number of plants than to treat exhaustively of any one or two.

MISCELLANEOUS

THE MEDICAL PRACTICE ACT OF TEXAS, As Amended by Act of the Thirty-Eighth Legislature, 1923.

Article 5733. Medical Board Established.—A board, to be known as the board of medical examiners for the State of Texas, shall consist of eleven men learned in medicine, legal and active practitioners in the State of Texas, who shall have resided and practiced medicine in this State under a diploma from a legal and reputable college of medicine of the school to which said practitioner shall belong, for more than three years prior to their appointment, and no one school shall have a majority representation on said board. Said board shall be appointed by the Governor of this State within ninety days after his inauguration, and the term of office of its members shall be two years, or until their successors shall be appointed and qualified. No member of said board shall be a stockholder or a member of the faculty or a board of trustees of any medical school. Vacancies occurring in the board shall be filled by the Governor. The word "medicine," as used in this article, shall have the same meaning and scope as given to it in Article 5745. (Act 1907, p. 224, Sec. 1.)

Article 5734. Organization, Meetings, Etc., of the Board.—The members of said board shall qualify by taking the oath of office before a notary public, or other officer empowered to administer oaths, in the county in which each shall respectively reside. At the first meeting of said board after each biennial appointment, the board shall elect a president, vice-president and secretary-treasurer. Six members shall constitute a quorum. Regular meetings shall be held at least twice a year, at such times and places as shall be deemed most convenient for applicants. Due notice of such meetings shall be given by publication in such papers as may be selected by the board. Special meetings may be held upon a call of three members of the board. The board may prescribe rules, regulations and by-laws, in harmony with the provisions of this chapter, for its own proceedings and government for the examination of applicants for the practice of medicine and obstetrics. Said board, or any member, shall have power to administer oaths for all purposes required in the discharge of its duties, and to adopt a seal to be affixed to all of its official documents. (*Id.*, Sec. 2.)

Article 5735. Board Shall Keep Register.—The board of examiners shall preserve a record of its proceedings in a book kept for that purpose, showing name, age, place and duration of residence of each applicant, the time spent in medical study in respective medical schools, and the year and school from which degrees were granted; said register shall also show whether the applicants were rejected or licensed, and shall be prima facie evidence of all matters contained therein. The secretary of the board shall, on March 1 of each year, transmit an official copy of said register to the Secretary of State for permanent record, certified copy of which, with hand and seal of the secretary of said board, or Secretary of State, shall be admitted in evidence in all courts. (*Id.*, Sec. 3.)

Article 5736. Physicians Required to Register.—It shall be unlawful for any one to practice medicine in any of its branches upon human beings within the limits of this State, who has not registered in the district clerk's office of the county in which he resides, his authority for so practicing, as herein prescribed, together with his age, postoffice address, place of birth, school of practice to which he professes to belong, subscribed and verified by oath, which, if wilfully false, shall subject the applicant to conviction and punishment for false swearing as provided by law. The fact of such oath and record shall be indorsed by the district clerk upon the certificate. The holder of the certificate must have the same recorded upon each change of residence to another county, and the absence of such record shall be prima facie evidence of the want of possession of such certificate. (*Id.*, Sec. 4.)

Article 5737. District Clerks to Keep Register.—Every district clerk in this State shall keep as a permanent record of his office a book of suitable size, to be known as the "Medical Register," and shall record therein all licenses to practice medicine issued by the State Board of Medical Examiners which shall be presented to him for registration and all the matters and things required by Article 5736 to be recorded, and shall, as required by law, make therein notation of the cancellation of licenses so registered, and of the death and removal from the county of physicians whose licenses are so registered.

When any district court shall cancel the license of any person to practice medicine, the clerk of said court shall, if said license is registered in his county, note the cancellation of said license upon the Medical Register of said county, and shall forthwith certify to the Secretary of the State Board of Medical Examiners, under the seal of said court, the fact that said license was so cancelled by said court, giving the exact date of said cancellation, and shall tax the fee for making said certificate as part of the costs of the suit to cancel said license.

Each county health officer shall keep informed of the death and removal of all registered physicians residing in the county where he resides, and upon the death or removal of any such physician from said county shall certify such death or removal, giving the name of the physician who has died, or so removed, the date, or approximate date of such death or removal, and shall date and sign such certificate and deliver the same, either in person or by registered mail, to the district clerk of said county, and said clerk shall forthwith make notation of said death or removal in said Medical Register, and notify the Secretary of State Board of Medical Examiners of the said death or removal.

The notation of such cancellation, if made by a district court, shall consist of writing in large, legible letters across the face of the record of the license cancelled the words: "Cancelled by the district court of.....county, on the.....day of.....19....." (filling the blanks so as to correctly indicate the name of the county and the date of the cancellation), and such notation shall be dated and signed officially by the clerk.

The notation of the death or removal of a registered physician by the district clerk shall consist of noting the fact of such death or removal upon the record of the license of the physician who has died or removed from the county in large, legible letters, the date of said notation, and the official signature of the clerk.

The district clerk shall collect from each physician who presents a license for registration the sum of one dollar ($1.00) at the time such license is presented to him for registration, and that sum shall be full compensation for recording said license and making all notations in the Medical Register required by law to be so made in reference to the physician named in said license. All matters pertaining to each physician shall be kept and written upon one page of said Medical Register, and no other entry or registration shall ever be made on said page.

It shall be unlawful for any district clerk to make a certified copy of any page or entry in said Medical Register, or any part thereof, which is not an exact copy of the entire page, or which does not include all notations regarding the cancellation of license, death or removal of the physician in question, appearing in the office of said clerk. A copy from the Medical Register pertaining to any person whose license is registered therein certified to by the district clerk having the custody of said Medical Register under the seal of said court, shall be competent evidence in all trial courts. The certificate of a district clerk under the seal of his office certifying that the person named in said certificate is not registered as a physician in the office of said district clerk, shall also be prima facie evidence in all trial courts. (Sec. 1, Act 38th Legislature.)

Article 5738. Reciprocal Arrangements.—The State Board of Medical Examiners may, in its discretion, upon payment by the applicant for registration of a fee of fifty ($50.00) dollars, grant license to practice medicine to any reputable physician who is a graduate of a reputable medical college or has qualified on examination for the certificate of medical qualification for a commission in the Medical Corps of the United States Army or Navy, and to licentiates of other states or territories having requirements for medical registration and practice equal to those established by this Act. It is provided, however, that application for license under the provisions of this section of this Act shall be in writing, and upon a form to be prescribed by and satisfactory to the State Board of Medical Examiners. Said application shall be accompanied with a diploma or a photograph thereof, awarded to the applicant by a reputable medical college, or a certified transcript of the certificate or license or commission issued to the applicant by the Medical Corps of the United States Army or Navy, or by a license or a certified copy of license to practice medicine, lawfully issued to the applicant by some other state or territory.

Said application shall also be accompanied by an affidavit from an executive officer of the Medical Corps of the United States Army or Navy, the president or secretary of the Board of Medical Examiners who issued said license, or by a legally constituted medical registration officer of the state or territory in which the certificate or license was granted upon which the application for medical registration in Texas is based. Said affidavit shall recite that the accompanying certificate or license has not been cancelled or revoked except by honorable discharge from the Medical Corps of the United States Army or Navy, and that the statement of qualifications made in the application for medical registration in Texas is true and correct.

Applicants for license under the provisions of this section of this Act shall subscribe to an oath in writing, which shall be a part of said application, stating that the license, certificate, or authority under which the applicant practiced medicine in the state or territory from which the applicant removed was at the time of such removal in full force and not suspended or cancelled; that the applicant is the identical person to whom the said certificate, license or commission and the said medical diploma were issued, and that no proceeding was pending at the time of such removal, or is at the present time pending against the applicant for the cancellation of such certificate, license, or authority to practice medicine in the state or territory in which the same was issued, and that no prosecution was then or is at the time of the application pending against the applicant in any state or federal court for any offense which under the law of Texas is of the grade of a felony. (Sec. 2, Act 38th Legislature.)

Article 5739. Examination of Applicants, Etc.—All applicants for license to practice medicine in this State, not otherwise licensed under the provisions of law, must successfully pass an examination before the Board of Medical Examiners established by this law. Applicants, to be eligible for examination, must present satisfactory evidence to the board that they are more than twenty-one years of age, of good moral character, and graduates of bona fide, reputable medical schools. Such schools shall be considered reputable within the meaning of this law, whose entrance requirements and courses of instruction are as high as those adopted by the better class of medical schools in the United States, whose course of instruction shall embrace not less than four terms of eight months each. Application for examination must be made in writing, under affidavit to the secretary of the board, on forms prepared by the board, accompanied by a fee of twenty-five ($25.00) dollars; except when an applicant desires to practice obstetrics alone, the fee for which shall be five ($5.00) dollars. Such applicant shall be given due notice of the date and place of examination. Applicants to practice obstetrics in the State of Texas, upon proper application, shall be examined by the board in obstetrics only, and upon satisfactory examination shall be licensed to practice that branch only; provided, this shall not apply to those who do not follow obstetrics as a profession, and who do not advertise themselves as obstetricians or midwives, or hold themselves out to the public as so practicing. In case any applicant, because of failure to pass examination, be refused a license, he or she shall, at such time as the Board of Medical Examiners shall fix, be permitted to take a subsequent

examination upon such subjects required in original examinations as the said board may prescribe, upon the payment of such part of twenty-five ($25.00) dollars as the said board may determine and state; and said board may, in the event satisfactory grades shall be made in the subjects prescribed and taken in such re-examination, grant to the applicant license to practice medicine. (Sec. 3, Act 38th Legislature.)

Article 5740. Disposition of Fees.—The fund realized from the aforesaid fees shall be applied first, to the payment of necessary expenses of the board of examiners; any remaining funds shall be applied by the order of the board to compensating members of the board in proportion to their labors. (*Id.*, Sec. 8.)

Article 5741. Examinations, How Conducted, Etc.—All examinations to practice medicine shall be conducted in writing, in the English language, and in such a manner as shall be entirely fair and impartial to all individuals and to every school, or system of medicine, the applicants being known to the examiners only by numbers, without names or other method of identification on examination papers by which members of the board may be able to identify such applicants, or examinees, until after the general average of the examinees' numbers in the class have been determined and license ordered granted or refused.

Examinations shall be conducted on anatomy, physiology, chemistry, histology, pathology, bacteriology, diagnosis, surgery, obstetrics, gynecology, hygiene, and medical jurisprudence. Upon satisfactory examination under the rules of the board, applicants shall be granted license to practice medicine. All questions and answers, with grades attached, shall be preserved in the executive office of the board for one year. All applicants examined at the same time shall be given identical questions in each of the above named branches. All certificates shall be attested by the seal of the board and signed by all members of the board, or a quorum thereof. The board may, in its discretion, give its examination for license in two parts. The first part shall include such of the required scientific branches of medicine named above as may be prescribed by the board. The second, or final part of the examination, shall not be given until the applicant has graduated and received a diploma from a reputable medical college. This, the second, or final part of the examination, shall include all of the scientific branches of medicine prescribed by this Act not included and passed by the applicant in the first, or partial examination, but no license to practice medicine shall issue to such an applicant or examinee unless and until he or she has been examined in all of the scientific branches of medicine prescribed by this Act and made the general average or averages required by the board.

The application for the first partial examination shall be accompanied by an affidavit from the dean or registrar of a reputable medical college, stating that the applicant has successfully completed the work of the first two years of the college course, and a fee of fifteen ($15.00) dollars; the application for the second, or final part of the examination, shall include an affidavit showing that the applicant is a graduate of a reputable medical college, in good standing with this board, and a fee of twenty-five ($25.00) dollars.

The board is authorized to make all rules as to credit to be given for partial examinations, and re-examinations of failed examinees in partial or complete examinations, and changes in procedure necessary to conduct the examination for license in two parts. But it shall be optional with the applicant for examination for license whether he or she shall take the twelve branches of medicine prescribed by this Act in one examination session of the board or in two separate sessions, as herein provided for. All applicants for examination by said board who cannot speak or write the English language must pay an additional charge of thirty ($30.00) dollars for the services of an interpreter, whose duty it shall be to fairly and accurately translate to the applicant each and all questions propounded to applicants in such examination, and to receive from said applicant full answer to said question and translate the said answer fully and with accuracy for the applicant, and write the answer thus translated in the answers to said questions furnished to the board for examination and grading. (Sec. 4, Act 38th Legislature.)

Article 5742. Does Not Apply to Whom.—Nothing in this Act shall be so construed as to discriminate against any particular school or system of medical practice. This Act shall not apply to dentists legally qualified and registered under the laws of this State who confine their practice strictly to dentistry; nor to optometrists who confine their practice strictly to optometry, as defined by Chapter 51, Acts of the Thirty-seventh Legislature, First Called Session; provided, that nothing in this Act shall be construed to affect or limit in any way the application or use of the principles, tenets or teachings of any church in the ministration to the sick or suffering by prayer without the use of any drug or material remedy, provided sanitary and quarantine laws and regulations are complied with, and provided no charge is made therefor directly or indirectly; nor to nurses who practice only nursing; nor to masseurs, in their particular sphere of labor who publicly represent themselves as such; nor to commissioned or contract surgeons of the United States Army, Navy or Public Health and Marine Hospital Service in performance of their duties, but such shall not engage in private practice without license from the Board of Medical Examiners; nor to legally qualified physicians of other states called in consultation, but who do not open office or appoint places in this State where patients may be met or called to see. This Act shall be construed as to apply to persons other than licensed druggists of this State not pretending to be physicians, who offer for sale on the streets or other public places remedies which they recommend for the cure of disease. (Sec. 4a, 38th Legislature.)

Article 5743. Board May Refuse to Admit Certain Persons.—The State Board of Medical Examiners may refuse to admit persons to its examinations, or to issue the certificate provided for in this law, for any of the following causes.

1. The presentation to the board for any license, certificate or diploma which was illegally or fraudulently obtained, or when fraud or deception has been practiced in passing the examination.

2. Conviction of a crime of the grade of a felony, or one which involves moral turpitude, or procuring, or aiding or abetting the procuring of a criminal abortion.

3. Other grossly unprofessional or dishonorable conduct of a character likely to deceive or defraud the public, or for habits of intemperance or drug addiction calculated to endanger the lives of patients; provided, that any applicant who may be refused admittance to examination before said board shall have his right of action to have such issue tried in the district court of the county in which some member of the board shall reside. (*Id.*, Sec. 11.)

Article 5744 Revocation of License.—The right to practice medicine in this State may be revoked by any court of competent jurisdiction, upon proof of the violation of the law in any respect in regard thereto, or for any cause for which the State Board

of Medical Examiners is authorized to refuse to admit persons to its examinations as provided in the preceding article; and it shall be the duty of the several district and county attorneys of this State to file and prosecute appropriate judicial proceedings in the name of the State, on request of any member of said board. (*Id.*, Sec. 12.)

Article 5744a. Cancellation of License, Etc.—The district courts of the State shall have the authority to cancel or suspend the license of any practitioner of medicine when it shall appear to the satisfaction of said court, upon hearing, that such practitioner of medicine has been convicted in a State of Federal court of an offense, which in the State of Texas is a felony, or for any offense involving moral turpitude, or that the practitioner obtained his examination for license upon a diploma, certificate, or license which had been illegally or fraudulently obtained, upon a fictitious or bogus certificate, license, or diploma, or one issued to a person other than the applicant, or that the practitioner was guilty of fraud, false swearing, or deception in obtaining examination by the board, or in passing examination for medical license, or in procuring the issuance of a license to him, or in securing the registration of his license by a district clerk, or that the practitioner has, in the judgment of the court, been guilty of grossly improper or dishonorable conduct of a character likely to deceive or defraud the public, or when it shall be shown to the satisfaction of the court that he is addicted to the habitual use of narcotics, or to habits of intemperance reasonably calculated to endanger the lives of his patients.

When complaint is made to the court by any county or district attorney, as is provided in Article 5744 of the Revised Civil Statutes of Texas, said court shall order the practitioner of medicine to show cause why his license shall not be suspended or revoked. Such complaint shall be made in writing, the charge and the grounds thereof shall be set out distinctly, and the same shall be subscribed and sworn to by the prosecutor and filed with the clerk of the court. Citation thereon shall be issued in the name of the State of Texas, and in manner and form as in other cases, and the same shall be served upon the defendant at least ten days before the trial day set therein. Upon the return of said citation executed, if the defendant shall appear and deny the charge, the cause shall be docketed for trial, and conducted in the name of the State of Texas against the defendant, and the State shall be represented by the county or district attorney. A jury of twelve men shall be impaneled, unless waived by the defendant, and the cause shall be tried in like manner as in other cases. If the said practitioner of medicine be found guilty, or shall fail to appear and deny the charge after being cited as aforesaid, the court may, by proper order entered on the minutes, suspend his license for a time, or revoke and cancel it entirely, and may also give proper judgment for costs. (Sec. 5, Act 38th Legislature.)

Article 5744aa. Duty of Attorney General.—Upon the application of the Board of Medical Examiners, or a majority thereof, to the Attorney General, setting forth that the county or district attorney of a county or district has failed to prosecute or proceed against any person violating the terms of this Act, setting forth that application and request has been made of such county or district attorney and that such request or application has been neglected or refused, it is hereby made the duty of the Attorney General to proceed against such a person in the county of the residence of the person complained against, either by civil or criminal proceedings. (Sec. 5a, Act 38th Legislature.)

Article 5744b. Injunction to Prevent Illegal Practice of Medicine.—The actual practice of medicine in violation of any of the provisions of Title Ninety (90), Chapter One (1), of the Revised Civil Statutes of this State, or in violation of the provisions of Title Twelve (12), Chapter Six (6), of the Penal Code of this State, shall be enjoined at the suit of the State, but such suit for injunction shall not be entertained in advance of the previous final conviction of the party sought to be enjoined for the violation of the provisions of Title 12, Chapter 6, of the Penal Code of this State. In suits for injunction so authorized by this Act, it shall not be necessary to show that any person or citizen is personally injured by the acts complained of. Any person who may be so unlawfully practicing medicine in this State, or may be about to so unlawfully practice medicine in this State, may be made a party defendant in such suit. The Attorney General, the district attorney of the district in which the defendant resides, the county attorney of the county in which the defendant resides, or any of them, shall have the authority, and it shall be their duty, and the duty of each of them, to represent the State in such suits for injunction. No injunction, either temporary or permanent, shall be granted by any court, until after a hearing on complaint is had by a court of competent jurisdiction on its merits.

In such suit no injunction or restraining order shall be issued until final trial and final judgment on the merits of the suit. If on the final trial it be shown that the defendant in such suit has been unlawfully practicing medicine, or is about to practice medicine unlawfully, the court shall by judgment perpetually enjoin the defendant from practicing or continuing the practice of medicine in violation of law as complained of in said suit. Disobedience of said injunction shall subject the defendant to the pains and penalties provided by law for the violation of an injunction. The procedure in such cases shall be the same is in any other injunction suit, as nearly as may be. The remedy by injunction given hereby shall be in addition to criminal prosecutions under the penal statutes of this State. Such causes shall be advanced for trial on the docket of the trial court, and shall be advanced and tried in the appellate courts in the same manner and under the same laws and regulations as other suits for injunctions. (Sec. 6, Act 38th Legislature.)

Article 5745. Who Regarded as Practicing Medicine.—Any person shall be regarded as practicing medicine within the meaning of this law:

1. Who shall publicly profess to be a physician or surgeon, and shall treat or offer to treat, any disease or disorder, mental or physical, or any physical deformity or injury, by any system or method, or to effect cures thereof;

2. Or who shall treat, or offer to treat, any disease or disorder, mental or physical, or any physical deformity or injury by any system or method, or to effect cures thereof and charge therefor, directly or indirectly, money or other compensation. (*Id.*, Sec. 13.)

Article 5746. Definitions.—The terms "physician" and "surgeon," as used in this law, shall be construed as synonymous, and the terms "practitioners" and "practitioners of medicine" and "practice of medicine," as used in this law, shall be construed to refer to and include physicians and surgeons. (*Id.*, Sec. 16.)

Article 5747. Malpractice Cause for Revoking License.—Any physician or person who is engaged in the practice of medicine, surgery, osteopathy, or who belongs to any other school of medicine, whether they use the medicines in their practice or not, who

shall be guilty of any fraudulent or dishonorable conduct, or of any malpractice, or shall, by any untrue or fraudulent statement or representations made as such physician or person to a patient or other person being treated by such physician or person, procure and withhold, or cause to be withheld, from another any money, negotiable note, or thing of value, may be suspended in his right to practice medicine or his license may be revoked by the district court of the county in which such physician or person resides, or of the county where such conduct or malpractice or false representations occurred, in the manner and form as is provided for revoking or suspending license of attorneys at law in this State. (Act 1905, p. 370, Sec. 1.)

Also the following sections of the Penal Code of the State:

Article 750. (Same as Article 5733, Revised Statutes, as hereinabove shown.)

Article 750a. It shall be unlawful for any person to practice medicine in any of its branches upon human beings within the limits of this State after his license has been cancelled by any court of competent jurisdiction, and upon conviction for violating this article the defendant shall be punished by confinement in the county jail not to exceed six months, or in the State penitentiary for not less than one nor more than four years. (Sec. 8, Act 38th Legislature.)

Article 751. (Same as Article 5737, as amended and hereinabove shown.)

Article 752. Practitioner of Medicine to Receive Verification License.—All legal practitioners of medicine in this State who, practicing under the provisions of previous laws, or under diplomas of a reputable and legal college of medicine, have not already received license from a state medical examining board of this State, shall present to the Board of Medical Examiners for the State of Texas, documents, or legally certified transcripts of documents, sufficient to establish the existence and validity of such diplomas or of the valid and existing license heretofore issued by previous examining boards of this State, or exemption existing under any law, and shall receive from said board verification license, which shall be recorded in the district clerk's office in the county in which the licentiates may reside. Such verification license shall be issued for a fee of fifty cents to all practitioners who have not already received license from the State Board of Medical Examiners of this State. It is especially provided that those whose claims to State licenses rest upon diplomas from medical colleges, recorded from January 1, 1891, to July 9, 1901, shall present to the State Board of Medical Examiners satisfactory evidence that their diplomas were issued from bona fide medical colleges of reputable standing, which shall be decided by the Board of Medical Examiners before they are entitled to a certificate from said board. This board may, at its discretion, arrange for reciprocity in license with the authorities of other states and territories having requirements equal to those established by this Act. License may be granted applicants for license under such reciprocity on payment of twenty dollars. (Act 1907, p. 225.)

Article 753. (Same as Article 5739, Revised Statutes, hereinabove shown.)

Article 754. (Same as Article 5742, Revised Statutes, hereinabove shown.)

Article 755. (Same as Article 7545, Revised Statutes, hereinabove shown.)

Article 756. Practicing in Violation of Law, Penalty.—Any person practicing medicine in this State in violation of the provisions of this law shall, upon conviction thereof, be fined in any sum not less than fifty dollars nor more than five hundred dollars, and by imprisonment in the county jail for a term not exceeding six months; and each day of such violation shall constitute a separate offense, and in no such case shall the violator be entitled to recover anything for the services rendered.

Article 756a. Any person who applies for a license to practice medicine in any of its branches in this State, and who shall make under oath any false statement in his application for examination by the Board of Medical Examiners, or who shall make any false statement under oath to obtain a license to practice medicine, or who shall make any false statement under oath to secure the registration of his license to practice medicine, shall, in either of said events, be guilty of the crime of false swearing, and on conviction therefor shall be punished as provided by the penal law of this State for the crime of false swearing. (Sec. 9, Act 38th Legislature.)

The following is Section 10 of the Act of the Thirty-eighth Legislature:

Section 10. That in the event any section or part of section or provision of this Act is held invalid, unconstitutional, or inoperative, this shall not affect the validity of the remaining sections, or parts of sections of the Act, but the remainder of the Act shall be given effect as if said invalid, unconstitutional, or inoperative section, or any part of section or provision, had not been included. In the event any penalty, right, or remedy created or given in any section or part of this Act is held invalid, unconstitutional or inoperative, this shall not affect the validity of any other penalty, right, or remedy created or given either the whole Act or in the section thereof containing such invalid, unconstitutional or inoperative part, and if any exception to or any limitation upon any general provision herein contained shall be held to be unconstitutional or invalid, the general provisions shall nevertheless stand effective and valid as if the same had been enacted without such limitation or exceptions.

QUOTH THE MOSQUITO TO THE FLY.

Says old Miss Mosquito to old Miss Fly,
Good-bye, my honey, good-bye,
If I stay 'round here I surely will die,
Good-bye, my honey, good-bye,
They are after me with all their might,
No place 'round here for me to light.
They've interfered with my summer fun,
It seems my race is nearly run,
So I'm off this very day—no place to stay,
Good-bye, my honey, good-bye,

J. J. ROBERTS, M. D.

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES.

Skiabaryt for Oral Administration.—A mixture of Barium Sulphate-Merck for *X*-ray Diagnosis, 75 to 85 per cent. admixed with sugar, tragacanth, vanillin, cinnamon and cacao. A smooth mixture is made with water and this is then ready for drinking. Merck & Co., New York City.—*Jour. A. M. A.*, May 12, 1923.

Skiabaryt for Rectal Administration.—A mixture of Barium Sulphate-Merk for *X*-ray Diagnosis, 75 to 85 per cent. admixed with sugar, tragacanth, vanillin and cinnamon. A smooth paste is formed by addition of water and it is then ready for administration through the irrigator. Merck & Co., New York City.—*Jour. A. M. A*, May 12, 1923.

Neutral Acriflavine.—It has the actions and uses of acriflavine (see New and Nonofficial Remedies, 1923). Being neutral in reaction, it is claimed not

to have the smarting and irritating effect of acriflavine solutions. Neutral Acriflavine is a brownish-red, odorless, granular powder. It is soluble in less than 2 parts of water, forming a brownish-red solution which fluoresces on dilution and which has a bitter taste. The Abbott Laboratories, Chicago, Ill.—*Jour A. M. A.*, May 19, 1923.

Neutral Acriflavine-Abbott.—A brand of neutral acriflavine-N. N. R. It is sold in substance and also in the form of Tablets Neutral Acriflavine-Abbott, 0.03 Gm., and Enteric Coated Tablets Neutral Acriflavine-Abbott, 0.03 Gm. The Abbott Laboratories, Chicago, Ill.—*Jour. A. M. A.*, May 19, 1923.

PROPAGANDA FOR REFORM.

Intravenous Therapy.—For some years the Council on Pharmacy and Chemistry has urged conservatism in the adoption of the intravenous method of administering drugs. It has been necessary to do this to offset the propaganda of proprietary firms that, for commercial purposes, feature the indiscriminate use of intravenous therapy. In order that the status of this drug administration might be presented to the profession, and that it might be made clear under just what conditions the intravenous administration of drugs is warranted, the Council publishes a report prepared by a committee which studied the problems involved. The report discusses the fallacy of the arguments commonly advanced by those who advocate intravenous therapy as a routine. The Council has no desire to discredit the rational use of drugs by intravenous injection, but, on the contrary, it seeks to avoid the accidents and disappointments that must follow the abuse of a method which, rightly employed, may be a life-saving measure. The Council places itself on record as opposing the reckless and indiscriminate use of drugs by intravenous injection with its attendant dangers and increased needless expense to the patient. However, the Council recognizes the legitimate, life-saving nature of the intravenous administration of drugs in extreme cases.—*Jour. A. M. A.*, May 5, 1923.

Fleischmann's Yeast Not Admitted to N. N. R.—In March, 1921, the Council on Pharmacy and Chemistry took up the consideration of Fleischmann's Yeast on account of the extensive and extreme therapeutic claims which were made for this preparation. Since then the Council has given much attention to the subject of yeast therapy. After consulting with eminent students of nutrition and clinicians qualified to speak with authority on questions of nutrition, dieto-therapy and pediatrics, the Council concluded that there was little likelihood that the administration of yeast or yeast preparations will be of therapeutic value in many cases for which they are advised. The Council finds that many advertisements for Fleischmann's Yeast are misleading in that they tend to create the belief that many diseases are prevented or cured by its use. Advertisements addressed to physicians are likely to lead to the belief that the efficacy of yeast therapy in many conditions has been established. Advertisements addressed to the public are bound to create the opinion in the mind of the lay reader that reliance may be placed on yeast in many conditions. The Council refused recognition to Fleischmann's Yeast (1) because it is advertised by means of unwarranted and misleading therapeutic claims, and (2) because it is advertised to the public with unwarranted therapeutic claims that may become a detriment to the public health.—*Jour. A. M. A.*, May 12, 1923.

The Standardization of Pituitary Extract.—Pituitary extract—a solution containing the water soluble principle or principles from the fresh posterior lobe of the pituitary body of cattle—is official in the U. S. Pharmacopeia as Solution of Hypophysis, and a method of standardization is prescribed. In practice the pharmacopeial standard has been found unreliable and manufacturers have adopted various modifications. Further, the pharmacopeial solution has been found too weak, and stronger preparations are being marketed. Some of these have been accepted for New and Nonofficial Remedies. The wide variation in the strength of pituitary extracts and the unsatisfactory character of pharmacopeial assay method are shown in a study carried out by Erwin E. Nelson, and a study by Morris I. Smith and Wm. D. McKlosky. The next pharmacopeia should provide a pituitary solution of satisfactory strength and an assay method which will insure a satisfactory control of this important medicament. Until such a standardization is provided, the physician will do well to use one of the pituitary preparations accepted for New and Nonofficial Remedies, which has been found to be satisfactory.—*Jour. A. M. A.*, May 19, 1923.

NEWS

Dr. Frederick R. Green Married.—Many friends in Texas of Dr. Frederick R. Green, formerly secretary of the Council on Public Health and Instruction of the American Medical Association and more recently connected with "Health," a health publication for the laity, will be pleased to know that he has forsaken the broad and easy road of bachelorhood and made a brave start down the straight and narrow path of married life. The wedding occurred June 30, and Dr. and Mrs. Green will be at home at 16 Chalmers Place, Chicago, after October 1.

Kerrville Hospital Ready.—Remodeling and rearranging of the American Legion Sanatorium is proceeding satisfactorily, according to Dr. R. L. Cook, medical officer in charge of the institution. Dr. Cook arrived recently to take charge of the hospital. He has with him a part of the staff that will make up the personnel of the sanatorium. The full force is expected to be here within the next week or ten days. This personnel will number approximately 300.

Patients will be accepted as fast as facilities for their accommodation are completed and it is hoped that the institution will be running full blast within the next six months. The full capacity will be 480 beds.

The American Legion Memorial Sanatorium is officially known now, according to Dr. Cook, as United States Veterans' Hospital No. 93 and is under the control of the Federal Government through the U. S. Veterans Bureau.—*San Antonio Light.*

New Director American Society for the Control of Cancer.—George A. Soper, B. S., M. A., Ph.D., has been appointed Managing Director of the Society for the Control of Cancer. Dr. Soper has had a large experience in difficult sanitary and epidemiological problems, and it is anticipated that he will successfully continue the great campaign against cancer. His scientific training was obtained at the Rensselaer Polytechnic Institute at Troy, N. Y., from which he was graduated in 1895, and at the College of Physicians and Surgeons, Columbia University, N. Y.

Among the many spectacular feats performed by Dr. Soper, was the discovery of "Typhoid Mary," the cook who spread typhoid fever wherever she worked. This was the first case of its kind to be reported in the United States, and it is still the best known either in or out of the medical profession. Scarcely less important was his achievement in directing the sanitary rehabilitation of Galveston after the hurricane and flood of 1900. It was in this work that

he demonstrated his ability to command the respect and assistance of the medical profession. This faculty is to be valued, particularly in connection with the effort to control and prevent cancer.

American Medical Aid for Russia.—An earnest effort is being made by the American Medical Aid for Russia, the medical division of the American Friends Service Committee (Quakers), to collect money, clothing, instruments, books and journals for our medical colleagues in Russia.

The condition of these men is deplorable. Removed happily by nature of their profession from the political disturbance, they have suffered doubly from the troubles of the last six years in that, while the demands for their assistance have multiplied immensely, they have been almost deprived of medical supplies, indeed, even of the necessities of life. They not only lack the barest necessities of food and clothing, but are terribly in needs of drugs, medical and surgical instruments and of scientific books and journals in English.

The Quakers are in a position to assure American physicians who are willing to assist their Russian colleagues, that contributions will be promptly and efficiently distributed in Russia. Literature will be distributed in co-operation with the Russian Health Department through notices printed in the official bulletin, to the effect that medical literature in English is available and can be had on request. The Quaker relief workers will directly supervise the distribution of this material to Russian hospitals, medical schools and individual physicians.

If every one of us would make his personal effort to help send such money and clothes as he can, to send files of journals which he does not use himself, as well as such medical books and instruments as he can spare, it would be an immense help. It's not a charity; it's a duty.—W. S. THAYER, 103 Park Ave., New York City.

SOCIETY NEWS

Bexar County Medical Society met April 12, with fifty members and ten visitors present.

Drs. Berrey, Dorbandt and McGlasson, a committee appointed for the purpose of interviewing certain legislators, reported that Representative Davenport, the champion of the chiropractors in the Legislature, was backing Representative LeSturgeon in his race for the office of Commissioner of Sanitation and Parks, and that Mr. LeSturgeon had grossly misrepresented his (LeSturgeon's) attitude toward the doctors. The committee recommended that the society actively oppose Mr. LeSturgeon's candidacy, not only because it is believed that his opponent will make a better official but as an object lesson to those who frankly state that it does not pay to support the medical profession. Upon their request, the committee was discharged.

The society decided upon a volunteer assessment of $5.00 for each member, and authorized the appointment of a new committee to conduct a campaign against Mr. LeSturgeon. Drs. Berrey, DePew, Dorbandt, McGlasson, Walsh, Russ, Duggan, Hargis, King, Luter and Bowen, were appointed.

The scientific program consisting of a symposium on Food Allergy, was rendered by Drs. J. C. Michael, J. W. Park and Alvis E. Greer, all of Houston.

Dr. Michael handled the subject from the standpoint of the dermatologist, stating that the dermatologist is constantly coming in contact with food allergy, urticaria, angioneurotic oedema, prurigo mitis, erythema multiforme, and some cases of eczema being the best known examples. He prefers the intradermal test, because of its greater certainty, but personally he uses the scratch method because of its greater simplicity. Great care must be exercised in the use of the intradermal test. One death has been reported as a result of the test made in this manner. About forty per cent of the tests made by the scratch method, using commercial preparations, fail. In twenty-three cases of chronic urticaria which he had studied, he had succeeded in affecting a cure in eleven, by eliminating the causative foods from the diet. He had relieved two cases of prurigo mitis, one of which was positive to lamb and milk and the other to oats. He had not succeeded very well in cases of eczema but believed that infantile eczema would yield more readily than that in grown persons. He had not been successful in five cases of erythema multiforme. While we do not know the exact underlying causes, a thorough knowledge of this condition is a great help in the treatment of many diseases. The technique of diagnosis and treatment must be painstaking, if any good is to come of either.

Dr. J. W. Park discussed the subject from the standpoint of pediatrics, in which he reiterated much that the previous author had said, and in which he particularly mentioned bronchial asthma, in a small percentage of which cases he believes food allergy is the causative factor. He prefers the intradermal test, although it is more difficult of interpretation. Some vegetables will not dissolve readily, in which instance the scratch method must be used. A child patient had been cured of asthma following the determination that it was sensitive to peaches. Another patient yielded when goose feathers were removed from its pillow, and still another was sensitive to a large number of foods, the removal of which from the diet resulted in a cure.

Dr. Greer discussed the subject from the standpoint of internal medicine. He stated that allergy is inherited while anaphylaxis is acquired. He formerly used the scratch method, but has recently taken up the intradermal method and believes it preferable, especially for the foods. He did not think that several intradermal tests should be made at the same time, because of the severe reactions sometimes occasioned in this manner. In case of a severe reaction he pointed out that 1 c.c. of a 1 to 1,000 solution of adrenalin would usually give relief. The dose can be repeated in a few minutes, and if necessary may be given intravenously. The authorities favor strophanthin over atropin in cases of vasomotor collapse. The authorities have agreed that less than four per cent of asthma is due to food allergy. A patient with abdominal pain of obscure origin, thought to be from an infected gall bladder, had been found sensitive to milk, rice and tomatoes, and a cure was readily obtained by removing these foods from his diet. A case of chronic appendicitis was cured after the patient had been found to be sensitive to egg albumen, banana, salmon and oats, by removing these foods from the diet. A case of achylia gastrica was found to be caused by oysters, turnips, lamb and cauliflower.

Dr. C. F. Lehman, discussing the subject further, gave it as his opinion, that those who were overenthusiastic on the subject are those who do not follow up their cases far enough to catch up with their failures, and that the pessimists are those who are too easily discouraged or who do not exercise sufficient care in the matter of technique. He could not report as much as 50 per cent cures in chronic urticaria, as had Dr. Michael. The difficult cases are those which do not show marked reaction to any one thing. He thinks the field is definite and if only one case out of a hundred is cured in this manner, it is worth while.

Dr. Mary Harper prefers the scratch method for the test in children. A patient of hers, aged four months, had been cured of eczema by stopping the six or eight eggs per day and large quantities of coca taken by the mother in an effort to increase her milk supply. Another child had been cured of asthma by substituting cow's milk for mother's milk. It was found that paroxysms would follow the ingestion of human milk from whatsoever source. Several members of this family showed definite food allergic reactions. The speaker pointed to the fact that the laity had long known that colic could often be cured by stopping or modifying mother's milk. It is important to make successive tests, in view of the likelihood that the first tests were made in periods of desensitization.

Dr. McGlasson was rather pessimistic as to results in this line of treatment. He had suffered many disappointments. He is inclined to feel that metabolic conditions are as much at fault as food allergy. He had studied this matter in about 150 cases, in which blood chemistry had been done. In a large number of these, metabolic errors were found. Real eczema comprises about 1 per cent of the cases coming to the dermatologist. The rest are misnamed.

Dr. Kahn stated that he had studied seventy-five cases of asthma, and in some of these it had been necessary to test from thirty to fifty articles of food. He preferred the intradermal method of making the tests, and urged that success might be had only with extreme care in the technique. The reaction should be looked for up to twenty-four hours. He thinks that food plays a minor part in respiratory conditions, and of these, white of egg and cereals are most often the offenders. The predominance of cereals in the group of causes can be accounted for when we consider that forty per cent of the cases of hay fever are caused by grasses. One patient was sensitive to a dilution of 1 to 100,000 of egg albumen. Some patients giving marked reaction to multiple substances are finally found to react very mildly to the particular food at fault. In the seventy-five cases of asthma he had studied, only one had failed to give a reaction to anything.

Bexar County Medical Society met April 26, with sixty-four members and ten visitors present.

Dr. Chas. L. Martin of Dallas, delivered an address on the general subject of what could be expected from deep *x*-ray therapy, which was accompanied by schematic drawings and other illustrations. Particular emphasis was laid upon the supraclavicular lymph nodes, the so-called sentinal nodes, which are often the first signs of malignancy of the prostate, testicle, or various other organs. In treating the abdomen it should be remembered that massive *x*-ray dosage is injurious to the intestinal mucosa. The author had done extensive experimental work in this respect, and he showed the results of minimal and maximal dosage upon the intestines of dogs. In one case, given a dose that would merely redden the skin, the dog died in the course of time and autopsy showed a desquamation of the intestinal mucosa in the area exposed. In treating prostatic malignancy the proximity of the rectum and bladder should be remembered. These are easily injured. While conservation was the keynote of the talk, one case was recited in which the breast had been removed, and which apparently showed metastasis of the lung. Deep *x*-ray therapy apparently removed this growth, as shown by pictures taken a year later. In cancer of the breast complete chest pictures should be made. It will not benefit to remove the breast unless there is an ulcerating mass, if there is lung involvement, particularly if above the clavicle. There is no such thing as a standard lethal dose. The author thinks the so-called radiation sickness which accompanies deep therapy in the adbomen, is from injury to th intestinal mucosa.

Dr. W. S. Hamilton, discussing the subject, is en thusiastic over the results from deep *x*-ray therapy but says that the results depend rather upon th character of the tumor than the power of the ray The nearer the cells approach the normal, the mor resistant they are. The surgeon should look upo the radiologist as a consultant, and preoperative an postoperative exposures should be made more tha they are at the present time. A case of spontaneou fracture of the hip from a large, round-celled sar coma, healed promptly and the soft tissues becam much less indurated, following a few exposures.

Dr. A. I. Folsom of Dallas, spoke on the subject "Ureteral Transplantation." The history of the de velopment of this operation was given in full. Th author believes that one of the primary causes o mortality in the most successful operations hereto fore, was the fact that both ureters were trans planted at the same time. This did not allow th rectal mucosa to become accustomed to the urine and too much urine was absorbed, resulting i uremia. Coffey of Portland, Oregon, corrected thi fault by transplanting one ureter at a time, and b placing the ureter in the intestine in the same man ner that it is placed by nature in the bladder. It i possible in this way to secure a valve-like action thereby preventing regurgitation into the kidne which regurgitation promotes ascending infection The author states that he transplanted the lef ureter in eighteen dogs, using the Coffey technique as nearly as possible. One dog died of peritonitis another developed a urinary fistula and died from peritonitis. Of the sixteen remaining dogs only four showed normal ureter or kidney. Pictures illustrating the experiments showed either a definite atrophy of the kidney or marked enlargement. In spite of these definite defects, the dogs appeared to be in fairly good health. The author believes from this experiment that the fault in this operation is principally mechanical. It is essential to devise some operation that will not obstruct the ureter.

Dr. McK. Johnson had seen two cases, in both of which the patient died, one from infection and the other from pyleonephrosis. He did not believe that the danger of ascending infection could ever be obviated, even though the ureter is placed normally in the intestine, as to mechanical position. He pointed out that ascending infection occurs even in the bladder.

The following papers were read by title: "The Relation of Trauma to Pulmonary Tuberculosis," Dr. W. C. Farmer; "Fracture of the Elbow Joint," Dr. C. S. Venable.

A committee with Dr. Homer T. Wilson as chairman, was appointed to look after the A. E. Little Shoe Company proposition, as relates to the advertising of this concern in the JOURNAL, with a view to placing this shoe favorably before the members of the society.

Dr. G. M. Duckworth was received into the society on transfer from the DeWitt County Medical Society.

Bexar County Medical Society met May 3, with thirty-nine members and six visitors in attendance.

A letter from the Commissioner of Parks and Sanitation, Mr. Lambert, was read, thanking the society for the support of its members during the recent primary election.

The following papers were read by title: "Sturmdorf Operation, Its Technical Advantage Over Other Methods in Cervical Pathology," Dr. Mary King Robbie; "Conservation of Hearing in the Young," Dr. E. M. Sykes.

Dr. O. H. Judkins read a paper on "Intracapsular Cataract Extraction; Report of Seventy-five Consecutive Cases." The author explained that the technique

used was that developed by Dr. John H. Burleson, and the cases reported were from the operations of Drs. Burleson, Walthall and himself. The technique was a modification of that devised by Lieutenant Colonel Smith of India. There was no iritis, infection or iridocyclitis in this series of cases. The greatest trouble in the operation is that often capsular or cortical material is left in the eye.

Discussing the paper, Dr. Burleson stated that the operation is not popular and probably will not be popular, but the idea originated by Colonel Smith is an excellent one. The bugbear has been the fear of loss of vitreous, but he does not personally fear this so much as he formerly did. There is less danger of loss of vitreous if pressure is evenly distributed. The operation should not be attempted when there is a plus tension or if the patient is unruly. He advises against the use of a speculum or eye hooks, but thinks it of distinct advantage to have the lids held by an assistant. The bandage should not be disturbed for eight or nine days, if possible to avoid it.

Dr. Steele, discussing the case, states that he has operated on approximately 100 cataract cases and has lost five eyes. He is always careful to see that there is better than light perception to begin with.

In closing the discussion Dr. Judkins stated that the injection is made below the cornea, because the bleb that is produced does not interfere as much with the operation as if it were made above. The injection completely anesthetizes the iris, so that the eyeball can be turned easily. In the series of cases reported, twenty-five or thirty were done upon clinical patients, and no attempt was made to select the cases. In about twenty-five per cent of the cases there was loss of vitreous, but one-half of these had a vision of 20-20.

Dr. F. C. Walsh read a paper on "Urological Observations of a General Nature."

Discussing the paper, Dr. H. McK. Johnson called attention to the fact that often pain in the kidney region is on the healthy side, and often because of compensatory hypertrophy the palpable kidney is the good one. The pain in renal colic is due to distension in the pelvis of the kidney. A diagnosis of chronic cystitis should not be made until everything else has been ruled out. He considers it poor judgment to attempt to do anything for malignancy of the bladder if it is at all extensive. He gave the history of two cases referred to Dr. Hamilton for deep x-ray therapy, both diagnosed by the cystoscope. In one of these there was an involvement of at least half of the bladder. This patient has benefited materially, the malignancy being reduced about half and the bleeding stopped.

Bowie County Medical Society met at Texarkana, April 2, with the following members in attendance: Drs. J. K. Smith, C. A. Smith, Middleton, Mann, Lanier, McClure, Grant, Robinson, Portwood.

Dr. R. H. T. Mann read a paper on "Cataract Extraction," which was freely discussed.

Childress-Collingsworth-Donley-Hall County Medical Society met in Childress, May 18, with the following members present: Drs. Odom, Hyder, Jernigan, Miller, Vardy, Wolford, Matthews, Michie, Wardlaw, Garner, Cross, Snyder, Bryan, Cariker, Moss, B. L. Jenkins and O. L. Jenkins. Drs. Barr and Field, dentists, were present as visitors.

Dr. Odom reported a case of mastoiditis without pain or evidence of involvement of the middle ear. A double mastoid operation was done, with a forty-eight hour interval. Pus was found in the mastoid cells on both sides, but there was no connection between the mastoid cells and the middle ear on either side.

Dr. Jenkins, discussing the case, reported a case of mastoiditis complicating pneumonia, in which the only symptom was pain, with an exacerbation of temperature. There was no external oedema or evidence of middle ear involvement.

Dr. Garner reported a case of hemorrhage from the bowel, which was the initial symptom of illness. It was his opinion that it was a case of ambulatory typhoid. In the discussion of this report, the occurrence at one time of a coffee-ground vomit was held to be an evidence of peptic ulcer, which was the diagnosis finally arrived at.

Dr. Wardlaw related the history of an epidemic of typhoid fever occurring in Plainview some years ago, in which there was an unusual number of fatalities. In a majority of these cases intestinal hemorrhage occurred before a doctor had been called.

Dr. Jernigan reported a recent case of fatal hemorrhage from aneurysm of the aorta.

Dr. Cross reported a case of pus in the appendix within twenty-two hours of the first symptoms. He also reported hydrocele of two and a half years standing, which, on operation, was found to inclose a small cyst.

Dr. Jenkins reported a case in which an appendix was found full of pus within three hours of the initial symptoms.

Dr. Garner presented a patient for examination and diagnosis. A committee consisting of Drs. Wardlaw, Cariker and Jenkins, was appointed to examine the patient and report. Dr. Wardlaw made a diagnosis of chronic appendicitis, and recommended appendectomy. The other two members made a diagnosis of chronic gastritis, with chronic constipation and possible duodenal ulcer. They urged a thorough study before operative interference.

Dr. Cross read a paper on "Cardiac Therapy," in which he stressed the importance of first making a correct diagnosis, then gaining the confidence of the patient, after which absolute rest in bed with gradual increasing exercise, with the judicious use of digitalis and other drugs for effect, is indicated. He reported two cases of myocarditis. In the discussion of this paper it was unanimously agreed that it is criminal to send such patients to the higher altitudes.

Dr. Wardlaw reported the plans of the State Medical Association for raising funds for the purpose of carrying on a campaign of education.

The next meeting will be in Wellington, June 8.

Comal-Guadalupe County Medical Society met in Seguin, May 1, with the following members present: Drs. Raetzsch, Stamps, Knolle, Anderson, Poth, Brandenberger, Karbach Graham. Drs. S. R. Kaliski and Eldridge Adams, both of San Antonio, were present as visitors.

Dr. R. L. Graham of Schertz, was elected to membership on presentation of transfer from LaSalle-Frio County Medical Society.

Resolutions were adopted, requesting Governor Neff not to submit chiropractic as a subject for legislation during the present called session of the Legislature, and commending him for his action in approving the recently enacted amendments to the Medical Practice Act.

Dr. S. R. Kaliski of San Antonio, read a paper on "Congenital Stenosis of the Esophagus in Children," which was illustrated with lantern slides. The essayist insisted that this condition is more common than is generally believed. He gave it as his opinion that surgery has not been satisfactory in this field. The paper was freely discussed.

Dallas County Medical Society met April 19, with thirty-six members present.

Dr. John R. Lehman read a paper on "Modern High Tension Living in Its Relation to the Human Mechanism," which was discussed by Dr. Carlisle.

Dr. C. W. Flynn read a paper on "Tri-Facial Neuralgia-Avulsion of the Sensory Root," with lantern

slide illustrations, which was discussed by Drs. Riddle and Bettison.

Dr. E. O. Rushing read a paper on "Preoperative and Postoperative Management of Exophthalmic Goiter."

Dr. G. D. Mahon read a paper on "Classification, Diagnosis and Surgical Treatment of Exophthalmic Goiter."

The two goiter papers were discussed by Drs. Carlisle and Peck.

Drs. M. M. Smith, Jr., S. R. King, W. E. Massey and Kelly Cox were elected to membership.

On her written request for the privilege, a committee was appointed to arrange for the installation of the Physicians' Registry by Mrs. Alma Rembert, in the auditorium of the Medical Arts Building.

Application for membership by Drs. G. E. Morris and B. R. Buford, were referred to the board of censors.

The secretary was directed to wire the Governor in opposition to submitting chiropractic as a subject for legislation during the present called session of the Legislature.

Dallas County Medical Society met April 26, with forty-three members present.

The following scientific program was rendered: "A case of Transverse Myelitis," Dr. R. B. McBride; "Circulatory, Respiratory and Nervous Disturbances in the New Born," Dr. G. B. McFarland; "Case of Congenital Unilateral, Nonpulsating Exophthalmus and Enophthalmus," Dr. F. H. Newton; "Present Status of High Voltage X-Ray in the Treatment of Malignancy," Dr. R. H. Millwee (discussed by Drs. Newton and Smoot); "Relation of the Third Nerve to the Sphenoidal Sinus" (read by title), Dr. E. H. Cary; "Weight in Pregnancy," Dr. C. R. Hannah; "Recent Observations on Surgery Versus Radiotherapy in Diseased Tonsils," Dr. O. M. Marchman; "Otitis Media and Its Sequela," Dr. Schmaltz.

Drs. G. E. Morris and B. R. Buford, were elected to membership.

Application for membership of Dr. G. A. Schenewerk was referred to the board of censors.

Resolutions were adopted in support of the movement fostered by local retail druggists to discourage violation of the law by drug stores.

Resolutions commending the administration of Dr. Wilson T. Davidson as Director of Public Health for the city of Dallas, and requesting the incoming administration to reappoint Dr. Davidson, were adopted. The resolutions called attention to the importance of the willingness on the part of the Director of Public Health to co-operate with the medical profession, and warmly commended Dr. Davidson in that particular.

Dallas County Medical Society met May 24, with 67 members and 4 visitors present.

Dr. G. B. Thaxton reported a case of artificial pregnancy.

Dr. A. B. Small reported the case of a man, thirty-six years of age, operated upon for appendicitis, in whom the peritoneal cavity was found to be divided into four distinct pouches.

Dr. Ben L. Schoolfield read a paper on "Treatment of Weak Foot in Infancy and Childhood," which was discussed by Dr. J. H. McGuire.

Dr. G. L. Carlisle read a paper on "Treatment of the Decompensated Heart," which was discussed by Drs. Giles, Grigsby, Holderness, Baker and D. W. Carter.

Dr. Geo. A. Schenewerk was elected to membership.

Upon request of the secretary of the Council on Medical Defense, a committee consisting of Drs. W. B. Carroll, J. T. Watson and A. W. Nash, was appointed to investigate certain malpractice suits filed against members of the society.

The society directed the secretary to write letters of appreciation to members of the Legislature who assisted in the passage of the amendments to the Medical Practice Act.

Resolutions commending Dr. T. J. Crowe to the favorable consideration of the new city council in making up the new hospital board, were adopted. The faithful services of Dr. Crowe in this capacity were pointed out and the fact recited that he is not a member of the county medical society and for that reason might possibly come under criticism. Miss Lowell, superintendent of Parkland Hospital, was commended in similar manner.

Dallas County Medical Society met June 14, with sixty-eight members and one visitor present.

Dr. Ben L. Schoolfield reported a case of giant cell tumor of the right femur, of one and one-half years' duration, which developed following an injury caused by the kick of a mule.

Dr. R. B. Giles reported the case of a man, sixty years of age, who had for four years been failing in health. In the left pleural cavity was found several liters of sterile, tuberculous pus. The pleura was very thick. He rapidly improved under artificial pneumothorax treatment.

Dr. Claude Uhler presented several cases illustrative of the more common hypertonicities. The subject was further discussed by Dr. R. B. Giles.

Dr. R. B. Giles read a paper on "Recent Advances in the Treatment of Diabetes," which was discussed by Drs. Stone, Griffin, Beall and Seely.

The applications for membership of Drs. P. M. Walker, J. H. Smart and W. L. Hanson, were referred to the board of censors.

The society went on record as endorsing the appointees to the hospital board, recently made by the city-county commission.

Eastland County Medical Society met at the Gholson Hotel, Ranger, June 19, with twenty-five members and visitors present. The meeting was opened with invocation by Reverend Webb of Ranger. Mayor Hodges delivered an address of welcome, which was responded to by Dr. H. B. Tanner of Eastland. The following papers were read and discussed: "Surgery of Prostate Gland," Dr. James A. Shackelford, Ranger; "Glass Fitting," Dr. L. C. G. Buchanan, Ranger; "Sugar and Cigarettes, and Their Effect Upon the Teeth," Dr. S. D. Terrell, Dentist, Ranger; "Treatment of Diabetes With the New Insulin Drug," Dr. J. Spencer Davis, Dallas; "Intestinal Obstruction," Dr. W. C. Palmer, Ranger. A vote of thanks was given Dr. Spencer Davis for his instructive paper.

Eastland and Comanche County Medical Societies will, according to their established custom, hold a joint meeting at Gorman, August 14, which members of both societies are cordially invited to attend.

El Paso County Medical Society met April 16, with thirty-five members and three visitors present.

Dr. W. W. Waite read a paper on "The Importance of Postmortem Examination." The paper was discussed by Drs. W. L. Brown, George Turner, Leff, Coloney Shockley and Major Haige.

Dr. J. W. Cathcart read a paper on "Radiation of the Nonmalignant Female Pelvis." The paper was discussed by Drs. W. L. Brown, Leigh, Waite, Major Haige and Colonel Shockley.

Dr. W. L. Larrabee read a paper on "The Status of the Roentgenologist," which was discussed by Drs. Cathcart and George Turner.

Dr. Harry Leigh reported a case of absence of the ossific centres in a child of premature birth.

Dr. S. D. Swope presented a patient suffering from psychoneurosis.

Dr. W. W. Waite made a report on a sanitary survey of Santa Barbara, Mexico, where he had gone

to determine the cause of an obscure illness and several sudden deaths among children. Dr. Branch Craige reported further on the same situation.

At the request of Dr. J. W. Brown city health officer, a committee consisting of Drs. Leigh, Waite, Duncan and Werley, was appointed to advise with the Health Department in drafting a set of rules for the guidance of school nurses employed in the city.

Dr. J. A. Rawlings was elected a delegate to the San Francisco meeting of the Association of American Medical Milk Commissioners.

Grayson County Medical Society met May 1, with the following members present: Drs. A. M. McElhannon, G. F. Brown, M. M. Morrison, A. A. Blassingame, O. C. Ahlers, J. H. Holt, A. G. Sneed, Paul Pierce, W. H. Hill, C. E. Schenck, A. V. Rutledge, T. W. Crowder, F. F. Fowler, E. L. Seay, E. W. Richardson, A. W. Acheson, H. I. Stout, T. J. Long, J. A. Rutledge, W. A. Lee, L. E. Vaughn and M. M. Jarvis. Drs. M. C. Murphy and J. E. Meader, dentists, were present as visitors.

Dr. O. C. Ahlers reported a cast of punctate keratitis in a young lady, a scorbutic patient.

Dr. A. M. McElhannon reported a case of echinococic cyst, which had been diagnosed subdiaphragmatic abscess. The patient was 73 years old. Local anaesthesia was used in the operation. The patient recovered.

Dr. G. F. Brown reported a case of a sixteen-months-old child with a swollen, tender right leg, and lameness, which had recovered following the administration of orange juice. The trouble was diagnosed as of scorbutic origin.

Dr. A. W. Acheson described an epidemic of scurvy which occurred in Texas in 1873.

Dr. H. I. Stout read a paper on "Postoperative Management of Abdominal Pus Cases." The author stressed the importance of free drainage, and so placing the patient in bed as to secure it. The paper was discussed by Drs. McElhannon, Acheson, Seay and Paul Gunby.

Resolutions were adopted pledging members of the society to efforts toward modifying the Eighteenth Amendment to the Constitution of the United States, if not its entire removal. The resolution was offered by Dr. A. W. Acheson. It was directed that this action be reported to the State Medical Association.

Dr. M. M. Morrison was elected alternate delegate to the State Medical Association.

Grayson County Medical Society met at the M. K. & T. Hospital in Denison, June 5, with the following members in attendance: Drs. D. K. Jamison, A. A. Blassingame, A. G. Sneed, J. E. Meador, M. C. Murphy, G. F. Brown, J. A. Mayes, R. E. Truly, A. W. Acheson, P. L. Pierce, T. J. Long and W. A. Lee.

Dr. Sneed presented three clinical cases, as follows:

1. A negro woman, age 45, complaining of shortness of breath for the past eight years. She suffered an attack of rheumatism five years ago. She has three living children and two dead, and has had no miscarriages. Six years ago she noticed a pronounced pulsation in the right side of the neck, and has since had several attacks of shortness of breath and rattling in the throat, with a moderate dry cough. The Wassermann reaction is negative, although syphilis is suspected. A diagnosis of arteriosclerosis with probable aneurysm of the right subclavian artery, was made in this case.

2. A white man, age 55, railway conductor, eighteen months ago felt something in his throat. Coughing relieved the sensation. In December, 1922, he noticed that in the evenings his face became flushed and he felt hot and his head would swim when he stooped over. In January, 1923, he became ill, with fever, dry cough and general malaise, being confined to his bed for ten days. Since that time he has suffered pain in the region above the right clavicle, vertigo and shortness of breath. The external carotid on the right side stands out prominently and is hard. There is a moderate bulging above the clavicle. There are no heart murmurs. The Wassermann reaction is four plus. A diagnosis of aneurysm of the ascending aorta was made in this case.

3. A negro boy three and one-half years old has experienced considerable difficulty in getting his breath, practically from the day of his birth. Five months ago he developed a dry cough and there would be a rush of blood to the face when he stooped over. A loud heart murmur accompanies the first beat. The lesion is, no doubt, congenital.

Dr. C. M. Grigsby of Dallas, read a paper on "Differential Diagnosis and Treatment of Cardiac and Cardio-Renal Conditions," in which he urged particularly that the cause of the condition in these cases is of more importance than an exact diagnosis. Loudness of murmur bears no direct relation to the severity of the condition. The diastolic pressure in these cases is of more importance than the systolic. A persistent diastolic pressure of more than 120 is dangerous. Of the high blood pressure cases, 75 per cent of them will die within ten years. The treatment is principally rest and diet. The rest should be absolute and a starvation diet should be prescribed for the first three weeks, following which milk and cereals should be mainly relied upon. In giving digitalis it is better to begin by giving large doses and decrease rather than small doses and increase.

Dr. Grigsby was by resolution thanked for his paper.

The application for membership of Dr. M. M. Jarvis was referred to the board of censors.

A complimentary dinner was given the society by the M. K. & T. management. A male quartet, consisting of Messrs. D. Baker, Fred Bullock, Leo Short and A. B. Young, rendered a musical program.

Harris County Medical Society met April 21, with sixty-five members present.

Dr. B. F. Smith reported a case of diabetes in a boy, treated with insulin. The report gave in detail the dosage, changes in the blood sugar as shown by the laboratory, and the results. The paper was liberally discussed.

Dr. A. H. Braden read a paper on "Clinical Pathology," in which he pointed out many of the details in which those demanding laboratory work fall short. He urged that the pathologist be looked upon more as a consultant than is generally the case. Those physicians not devoting their attention considerably to laboratory work are not able to interpret laboratory findings so well as the clinical pathologist.

A paper by Drs. W. B. Thorning and Wm. LaPat, was presented, under the title "Head Injuries; the Relative Value of Fundi Findings and Other Clinical Symptoms as Indications for Operative Interference." The authors, following considerable research work along the lines of the paper, concluded that the fundi findings in cases of this nature are of little value in determining whether there shall be surgical intervention. Most of the symptoms mentioned in textbooks are of little value, because patients suffering from fractured skulls are usually in a condition of coma when seen, and not all of the symptoms are objective.

Dr. Graves stated that some of these patients who show little or no symptoms will speedily show them if caused to assume the upright position. There is usually some eye symptom of importance.

Dr. LaPat urged that the difficulty of determining slight abnormalities in the eye prior to the injury,

makes the detection of such abnormalities more or less indeterminate in such cases.

Closing the discussion, Dr. Thorning states that he does not consider spinal puncture in these cases particularly dangerous. As for the advisability of operating, he attributes the decided downward trend in mortality in the last thirty-five years largely to the increasing tendency to operative interference.

Hidalgo County Medical Society met in Edinburgh, June 7, with the following in attendance: Drs. Conard, Doss, Garst, Harrison, Hunter, Lemmon, Mahone, McCann, McMillan, Miller, Osborn, Stephens, Schelaben, Utley, White, G. E. and J. G. Whigham.

The following visitors were also present: Drs. B. M. Works and R. L. Works of Brownsville; F. U. Painter and E. G. Mathis of Corpus Christi; C. Kirk Russell, Falfurrias; D. Adkinson, Alice, Messrs. W. R. Cooley of Raymondville, E. L. Mahon of Edinburgh and W. L. Box, druggists, Honorable Sam Hogan of LaFeria and Judge Eppison of Edinburgh.

Dr. G. E. White reported that the young lady in the case reported by him at the last meeting was improving under anti-staphylococcus treatment.

Dr. John Hunter reported that the patient in the case reported by him at the last meeting, suspected of being tabetic, and in whom the Wassermann was positive, had been steadily declining, notwithstanding vigorous treatment with mercury and potassium iodid, and neosalvarsan intravenously every eight days. He quoted from Martinett of Paris, the statement that the Wassermann reaction is positive in many cases in which there is no syphilis, and that it has frequently been found negative in cases with marked clinical evidence of the disease. This reaction cannot be relied upon implicitly in question of prophylaxis, marriage or cure. Drs. Utley and McCann urged that contrary Wassermann reactions were most likely the result of faulty technique.

Dr. R. L. Works read a paper on "Ocular Manifestations of General Diseases," which was discussed by Drs. Mathis, Lemmon and Adkinson.

Dr. F. U. Painter read a paper on "Incomplete Abortion," which was discussed by several.

Dr. E. G. Mathis read a paper on "Punctured Wounds of the Eye, With Report of Cases," which was discussed by Drs. Adkinson, Hunter, McCann, Painter and Works.

For the good of the order, Dr. Hunter read a part of the Physician's Prayer, written by Dr. Daniel years ago. In the course of his remarks Dr. Hunter urged that members refrain from making cheap life insurance examination, which, he held, reflected no honor on the doctor and certainly none on the profession. Dr. Hunter also offered the following resolutions, which were adopted:

Whereas, It has come to our knowledge that Dr. G. H. Sherman of Detroit, Michigan, whose biological laboratories are advertised in *The Journal of the A. M. A*, which is virtually an endorsement of the same, has brought suit against the International Magazine Company, W. R. Hearst, *et al*, because of derogatory, defamatory articles published recently in *Hearst's International*, written by one Paul De Kruif, of whom the impression is created that he is a physician, and

Whereas, We believe the said articles were written in a spirit of malicious sarcasm for personal gain, at the expense of and to the detriment of G. H. Sherman and the medical profession, through creating distrust in the mind of the general public, which public never grasps the real condition of such things, therefore be it

Resolved, That the Hidalgo County Medical Society, while deprecating the promiscuous advertising to the profession of any remedy used in the cure of disease until after the virtue of such remedy has been well established, does, by the adoption of this resolution, place itself upon record as approving the action of Dr. G. H. Sherman and wishing for him success in his suit.

Drs. Osborn, Harrison and Cash, were appointed a committee to draft resolutions of condolence upon the death of Dr. W. R. Dashiell.

Dr. J. A. Malone of Beeville, was dropped from the roll of members because of non-payment of dues and assessments.

The Fort Worth Medical and Surgical Clinics were held in Fort Worth May 7, the day preceding the annual session of the State Medical Association, and a record attendance was noted.

Every hospital in the city conducted clinics during the morning hours, all of which were well attended. A luncheon was served to 250 visiting doctors by the Ladies Auxiliary, in the Society rooms, at noon. The hall was beautifully decorated, and President Dr. Becton and President-elect Dr. Scott, made after-dinner talks.

In the afternoon Dr. Clifford A. Wright of Los Angeles, California, discussed at length the various phases of endocrinology, as illustrated by numerous cases brought to the clinic by local physicians.

A treated cretin three years of age, showing marked improvement, was compared with an untreated cretin two years and five months of age with typical cretin markings. A differential diagnosis between Mongolism and bi-lobar dyspituitarism was definitely shown.

A child four months of age, presenting a typical picture of Mongolism, was shown. Diagnosis had been made at the age of six weeks. The child was very active and alert and had a small head with slanting eyes. In comparison, a child two years and three months of age was shown, presenting typical Mongolian features. This patient had been treated with thyroid substance and showed some improvement. Dr. Wright thought the prognosis in both cases was doubtful, as far as treatment is concerned. He detailed a series of fifteen similar cases occurring in his own practice.

A Mexican boy, from the medical service of Dr. Barcus at the City-County Hospital, was perhaps the most interesting case presented. The patient was fourteen years of age and had not grown at all since the age of eight. He had measles at seven years of age, and there had been little development since that time. He was 46½ inches high, with a span of 44 inches, torso 23½ inches and lower extremities 23 inches. Genital development was practically *nil*. *X*-ray of the hips showed an osteo-chrondritis. Dr. Wright considered this a case of arrested growth, due to insufficiency of the anterior portion of the pituitary. He recommended treatment with antuitrin hypodermically and anterior pituitary substance by mouth.

A case of amenorrhea in a girl fifteen years of age, was presented. The patient complained of pelvic pains and a rapid gain in weight. At this time she weighs 195 pounds. She was a typical picture of pituitary insufficiency, preadolescent bi-lobar type, with marked girdle obesity, genu varum, etc. Dr. Wright recommended treatment with antuitrin and pituitrin hypodermically, and whole pituitary substance by the mouth, to which might be added a small dose of thyroid extract.

Dr. Edward Clay Mitchell of Memphis, Tennessee, lectured on the subject of congenital hyperthropic stenosis of the pylorus. The classical symptoms and various points in differential diagnosis were set out in detail. The various methods of treatment and operations were outlined, the author preferring the Ramstead operation.

Dr. Wm. T. Black of Memphis, Tennessee, discussed the merits of the various operations now in vogue for correction of retro-displacements of the uterus. Correction of pathology should be the aim of the surgeon and the choice of operation should be secondary.

Tarrant County Medical Society met May 15.

Resolutions endorsing the fund-raising campaign for the Baptist Hospital, were adopted.

Mr. Billingsly of the Retail Merchants Credit Association, offered the services of that organization to the doctors. The campaign as outlined was, briefly, as follows: Physicians to report to the association by name the status of their various patrons as to ability and willingness to pay, using a code. A book would be issued containing these reports, but not mentioning the physicians making the reports. This book would be furnished at 75 per cent of its cost. Additional service will be rendered every two months, free of cost. The cost of membership is $25.25 per annum, payable quarterly.

Upon motion, the proposition was endorsed by the pose exclusively, of its consideration.

The revised constitution and by-laws was presented by Dr. Will Horn, chairman of the committee appointed for that purpose. The report was tabled and the secretary directed to send copies to each member, and to set aside the next meeting for the purposes, exclusively, of its consideration.

The matter of the finances of the society, upon request of the secretary, was referred to a committee composed of the president, vice-president and secretary.

The secretary was directed to write a letter to the manager of the Texas Hotel, expressing appreciation of the services rendered the State Medical Association during its recent meeting in Fort Worth.

Tarrant County Medical Society met in Fort Worth, June 5.

Professor Moore, superintendent of the city public schools, by invitation addressed the society in the interest of a proposed clinic in connection with the schools, to care for the physical deficiencies in children not able to pay medical fees, discovered by the school physicians and nurses in the course of their inspections. Mr. Moore recited the success of the dental clinic at the present time being conducted in connection with the schools by the dental profession. In this clinic 10,000 pupils had been examined, and the medical staff had inspected 9,000. Adenoids were found in 30 per cent. How many had been operated upon he did not know. Of those requiring dental work, 50 per cent had had the work done, either by private dentists or dentists in charge of the clinic. Many children will not go to the City-County Hospital, where the society at the present time conducts a free clinic, largely because of the ignorance of parents. Many public schools, including one or more in Texas, conduct clinics of the kind suggested. There is available at this time $35,000 per year for health work, and it is felt by members of the board that $50,000 worth of good can be done with this money, if children can be made to have physical deficiencies noted by the inspectors duly and properly corrected.

Following a thorough discussion of the subject, and upon the request of Professor Moore, a committee consisting of Drs. Wilmer Allison, Edwin Davis and Holman Taylor, was appointed to confer with Professor Moore and the school board, with instructions to inform the board that the society prefers not to endorse the establishment of additional clinics to that already being conducted by the society and the City-County Hospital. It was held that more than one free clinic in the city would be an imposition on the medical profession and that a clinic, the medical service for which is paid for by the board, would be subject to such abuse as to ultimately prove harmful to all concerned.

The draft of a completely revised constitution and by-laws was presented, discussed and, following numerous amendments, duly adopted.

Dr. W. L. Perkins of Grapevine was elected to membership.

Van Zandt County Medical Society met at Canton, May 4, with six members and two visitors present.

The following papers were read and freely discussed: "Belladonna," Dr. Felix V. Bryant; "Puerperal Septicemia," Dr. Marion L. Cox; "Leukorrhea," Dr. De Leon Sanders.

Van Zandt County Medical Society met in Canton, June 1, with nine members and one visitor present.

The following clinical cases were presented: Omental gumma, in a child fifteen months of age, by Dr. W. C. Hearin of Canton; periostitis with metastasis, in an adult, by Dr. L. W. Shoemaker of Canton; toxic endocarditis following an attack of erysipelas, by Dr. Robt. L. Gray of Ben Wheeler.

The following resolutions were adopted:

"*Be It Resolved,* That the Van Zandt County Medical Society go on record as condemning the H. B. No. 58, which provides an occupational tax for the medical profession, now pending in the State Legislature, and furthermore be it

"*Resolved,* That if the State imposes an occupational tax upon the medical profession it should assume the burden of all charity practice."

Personal.—Dr. A. J. White of Laredo, who has been confining his work to the eye, ear, nose and throat, is attending the Medical Department of Denver University (Colorado), taking a course of study which will lead to the degree of Doctor of Ophthalmology and Fellow of the American College of Ophthalmologists.

CHANGES OF ADDRESS.

Dr. F. D. Shepherd, from Burkburnett to Electra.
Dr. Roy A. Olive, from Taylor to Brandon.
Dr. E. P. Norwood, from Galveston to Corsicana.
Dr. H. A. Ross, from Carthage to Longview.
Dr. L. T. Tinkle, from Timpson to Lufkin.
Dr. Charles Wendelken, from Robstown to Corpus Christi.
Dr. E. P. Smith, from San Antonio to Cleburne.
Dr. J. T. Holland, from Itasca to Three Rivers.
Dr. S. L. Mayo, from Belton to Bishop.
Dr. V. R. Randolph, from Post to Cibolo.
Dr. G. R. Taylor, from Crockett to Evansville.

DEATHS

Dr. C. M. Alexander of Coleman, died in Temple, Texas, May 13, 1923, following a surgical operation.

Dr. Alexander was born in Cumberland County, Kentucky, January 17, 1857. He was educated in the common schools about him, eventually taking the degree of A. B. from Cumberland University at Lebanon, Tennessee, in 1879. He immediately undertook the study of medicine and graduated from the University of Louisville in 1882. He located in Coleman in 1883, where he practiced continuously up to the time of his death. In October, 1883, he returned to Kentucky for his bride, Miss Mary Brown of Munfordville. His wife and four children, H. L. Alexander of Moreland, Kentucky; Mrs. L. A. Brewer of Washington, D. C.; Dr. C. B. Alexander of Bessmay, and Elizabeth Alexander, survive him.

At the time of his death Dr. Alexander was a Trustee of the State Medical Association of Texas, which office he had held continuously since 1917. His services in this capacity have been invaluable.

The trustees had learned to respect his judgment most highly in the financial affairs of the Association. He was at one time vice-president of the State Association, and had repeatedly been elevated to office in county and district societies. He would never permit himself to be involved in organization politics, and his election to office has invariably been in recognition of merit.

Nor were his activities confined to medical affairs. He was a financier of recognized ability. At the time of his death he was president and senior

DR. C. M. ALEXANDER.

director of the First National Bank of Coleman. He was active in the promotion of all affairs for the good of the community in which he lived, and it is generally conceded that his citizenship was of importance to him and to his fellows. He had been a trustee of the Daniel-Baker College at Brownwood, for many years. He occupied the same position with the Texas Presbyterian College for Women at Milford.

Dr. Alexander was of a religious turn of mind, and for more than a quarter of a century was a member of the Presbyterian Church, in which he served as deacon and elder most of the time, and for a time as superintendent of the Sunday School. About ten years ago he and his wife withdrew from the Presbyterian Church and joined the Methodist Church, in which he has been equally as prominent, having served for the past eight years as lay leader and steward. He was prominent in securing a new building for the Methodist Church, from which he was buried.

The loss of this good man was mourned by one of the largest funerals in the history of the community. The District Court adjourned for the funeral, and all business houses in the city were closed. His loss to the medical profession may not easily be estimated.

Dr. E. S. Carroll of Center, Texas, died at a sanitarium in Shreveport, La., April 10, 1923, following an operation for renal calculi.

Dr. Carroll was born in Shelby County, Texas, December 2, 1866. He received his early education in the schools of his community, and his medical education in the Louisville Medical College, from which he graduated in 1893. He took several postgraduate courses in the Tulane University, New Orleans. He began the practice of medicine at Center, Texas, where he had enjoyed an extensive surgical and medical practice until a week before his death.

Dr. Carroll was a member of the Methodist Church, a Mason, and had been an active member of the Shelby County Medical Society for many years. He is survived by two sons, a daughter, and his second wife, to whom he was married two years.

Dr. H. K. Weems of Jean, died of Bright's disease, March 31, 1923.

Dr. Weems was born in Hartsville, Tennessee, January 4, 1873. He moved to Collin County, Texas, in 1891, where he taught school for several years. He was married to Miss Stella Thompson of Dallas, May 15, 1905. He was a graduate of the Tennessee State Normal and the University of the South, Sewanee, Tennessee, from which latter institution he received his degree in medicine, in 1908. He was also a graduate in pharmacy, holding B. S. and B. P. E. D. degrees.

Dr. Weems went from Collin County to Oklahoma, where he practiced a short while before locating at Jean, Texas. He was president of the Jean State Bank, a director of the Guaranty State Bank of

DR. H. K. WEEMS.

Graham, and interested generally in the civic affairs and the upbuilding of his community. He was a consistent member of the Methodist Church, an Odd Fellow, a Mason and a Shriner. His funeral services were conducted under the auspices of the Masonic Lodge. He had been, until a year prior to his death, for many years a member of the Young County Medical Society. He is survived by his wife, one

brother, J. K. Weems of Bowling Green, Kentucky, and one sister, Mrs. Fannie Branner of Hartsville, Tennessee.

Dr. M. W. McGown of Hemphill, Texas, died April 7, the result of a gunshot wound received on April 6.

Dr. McGown was born and reared in Sabine County, Texas, where he received his early education. He

DR. M. W. McGOWN.

received his degree in medicine from the Gate City Medical College in 1904, and later did postgraduate work in New Orleans, London and Paris.

Dr. McGown was for many years a member of the Sabine County Medical Society, of which organization he was secretary at the time of his death.

Dr. James Pickett of Plainview, died suddenly at his office, May 19, 1923. Dr. Pickett was born in Alabama, December 10, 1853, and came to Texas in 1869. He received his literary education at Waxahachie and taught school in both Ellis and Tarrant Counties. He obtained his degree in medicine from the Vanderbilt University, in 1882, and began practicing in Johnson County, in partnership with his father. He moved to Plainview in 1909, where he built up the splendid practice in which he was actively engaged at the time of his death. He had been a member of the State Medical Association for many years, and was at one time president of the Hale-Floyd-Briscoe-Swisher County Medical Society.

Dr. Willis R. Smith of El Paso, died suddenly at his home, April 30, 1923.

Dr. Smith was born in Bonham, Texas, May 18, 1872. His family removed to Dallas, Texas, while he was a small child, in which community he was reared to manhood. He was educated in the public schools of Dallas, finishing his education in the Texas Christian University while that institution was still known as Add Ran College, located at Waco. He graduated in medicine from the University of Texas in 1896, immediately taking up the practice of medicine in the city of Dallas, where he remained for three years, removing from that place to Colorado, Texas, at the end of that time. While practicing in Dallas he served for a time as House Surgeon for Parkland Hospital, and was on the visiting staff of St. Paul's Sanitarium. He removed to El Paso in 1911, to become associated with Dr. R. B. Homan in the management of the Homan Sanatorium. He retained that connection until the time of his death.

Dr. Smith had been a member of the State Medical Association for many years, was a Fellow of the American Medical Association, and an active member of the National Tuberculosis Association. He was a close student of scientific medicine, and was on the scientific program of the recent Fort Worth meeting for a paper, at the time of his death.

In 1896 he was married to Miss Sallie Homan who, with two daughters, survive him.

Dr. Smith was a public-spirited citizen, displaying much interest in enterprises instituted for the good of his community. He was a Mason of high degree and a member of the Knights of Pythias Lodge.

DR. WILLIS R. SMITH.

The following resolution was adopted by the Section on Medicine and Diseases of Children of the State Medical Association, at Fort Worth:

"As the all wise Creator has called from our midst our beloved brother practitioner, Dr. Willis R. Smith, be it,

"*Resolved*, by the Section on Medicine and Diseases of Children of the State Medical Association of Texas, that our deep sorrow be spread on the minutes of this Section, and that a copy be sent to the bereaved family."

Dr. Charles A. Reinemund, El Paso, Texas, died at his home, May 7, 1923, of pernicious anaemia.

Dr. Reinemund was born in Muscatine, Iowa, December 23, 1882. He attended the State University of Iowa, and in 1904 graduated from Jefferson Medical College in Philadelphia, at the age of 21. He took

a hospital internship at Western Pennsylvania Hospital in Pittsburgh. For a number of years he practiced medicine in Junction City, Kansas. In 1910 he went to Europe for a year's postgraduate work. Upon his return he located in El Paso.

In 1912 he was married to Miss Regina Schuster,

DR. CHARLES A. REINEMUND.

daughter of the late Dr. M. P. Schuster of El Paso. His wife and a son and daughter survive him.

Dr. Reinemund was a Fellow of the American Medical Association, a member of the State Medical Association of Texas, through the El Paso County Medical Society, of which he was for two years its secretary-treasurer. He was a Mason and a member of the El Maida Temple of the Shrine.

Dr. J. M. Conrad of Mexia, Texas, died March 22, 1923, from angina pectoris, following a few hours' illness.

Dr. Conrad was born at Lexington, N. C., January 10, 1860, and received his early education in the common schools of his neighborhood. He graduated in medicine from the University of Tennessee College of Medicine, Nashville, in 1885, and immediately located in Limestone County, Texas, where he continued to practice until his death. A professional friend of Dr. Conrad had the following to say of him: "Dr. Conrad was a man whom everybody admired. He was a born optimist. To know him was but to like him. He counted his friends by the hundreds; enemies he had none. His patrons all loved him and he was as true as steel to them. 'May his tribe increase.'"

He is survived by his wife and three daughters.

Dr. F. H. Ellington of Pittsburg, Texas, died April 9, 1923. Dr. Ellington was born in Cass County, Texas, February 13, 1857. He received his early education in the common schools of his neighborhood. In 1881, he engaged in the mercantile business at Queen City, Texas, which business he followed for a number of years, when he began the study of medicine, receiving his degree from the Memphis Hospital Medical College in 1900. The following year he moved to Pittsburg, Texas, where he practiced until ill health forced him to retire. He had until a year preceding his death, been a member of his county medical society for many years. He is survived by his wife and seven children.

Dr. J. W. Smith of Hemphill, Texas, died at his home, recently. Dr. Smith was born in Union Parish, La., in 1844. He came to Texas in his early childhood, secured his literary education in the common schools of his neighborhood, and his medical schooling in the St. Louis College of Physicians and Surgeons. He took a postgraduate course in New Orleans in 1904.

Notwithstanding Dr. Smith had been in ill health for some months before his death, he continued to

DR. J. W. SMITH.

practice. He had been an active member of the Sabine County Medical Society for many years, with the exception of a short while prior to his death. Dr. Smith had served long and faithfully and will be greatly missed from the ranks of the profession, as well as by those to whom he had so untiringly and efficiently ministered in time of sickness.

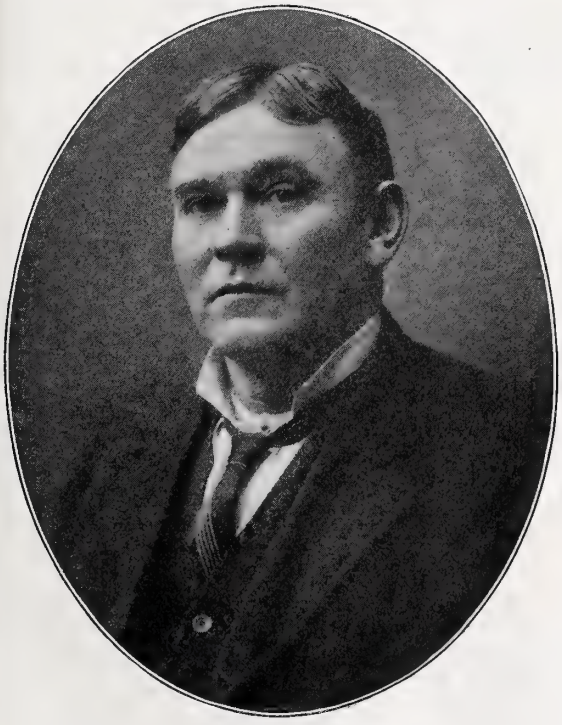
Dr. R. R. Shapard, Anson, Texas, died May 18, at Fort Worth, following an operation.

Dr. Shapard was born at Hempstead, Texas, June 13, 1858. His preliminary education was obtained in the public schools and in the Agricultural and Mechanical College at Bryan. In 1881, he completed a course in the Thorp Springs Commercial College and Literary Institute. He graduated in medicine from the Vanderbilt University in 1887, and began practicing at Thorp Springs, removing to Anson the following year, where he did general practice until 1915, when he began specializing on the eye, ear, nose and throat, in which practice he continued until the time of his death. He took postgraduate work in New York in 1899, and in Chicago in 1913.

Dr. Shapard was a member of the Methodist Episcopal Church, South. He had been identified with the First National Bank of Anson in an official way for a number of years, being vice-president of that institution at the time of his death. He was a Mason and a member of his county and State medical organizations. He was en route to the annual session of the State Medical Association at Fort Worth, at the time he was stricken, just preceding his death.

He is survived by his wife, two sons—Grunday, who is practicing law at Wichita Falls, and Brandon, who is studying law in the University of Texas.

Dr. Thomas Porter Davis, Terrell, died at his home, June 23, 1923.



DR. T. P. DAVIS.

Dr. Davis was born at Varnell Station, Georgia, October 6, 1858, at which place he received his early education. He graduated in medicine from the Southern Medical College, Atlanta, Georgia, in 1880, and came to Texas in April of the same year, locating at Walton. He practiced at that place for two years, removing to Canton, where he practiced for two years, thence to Dublin, where he spent two years, and then back to Canton in 1886, where he practiced until 1903. He located in Terrell in 1903, where he continued to practice until about two years previous to his death, when he was forced to retire on account of ill health.

In 1885, Dr. Davis was married to Miss Julia R. Kellam, who together with three children, two daughters and one son, survive him.

Dr. Davis at one time served as county health officer of Van Zandt County. In 1922 he was city health officer. He was a member of the board of directors of the Terrell Chamber of Commerce, and was always interested and active in all work tending toward the betterment of the moral and industrial affairs of his community. He had been a member of the Kaufman County Medical Society for many years and will be greatly missed from the ranks of the profession of that county. The following eulogy of Dr. Davis appeared in a local publication:

"In the death of Dr. T. P. Davis there has fallen one who was a man among men. In the quiet dignity of strong, stately manhood he strode among his fellows. The plaudits of men he never sought, nor did the world's empty honors ever appeal to his modest soul. He had a loftier conception of the destiny and the mission of man. He came to minister and not to be ministered unto. With a beautiful self-effacement, characteristic of many in his profession, he laid his life and all his powers upon the altar of consecrated service. To the noble profession of healing he brought the noble spirit of an ethical, charitable, sympathetic, self-sacrificing Christian physician. His life proclaimed anew to men on the streets and in the market places the sublime principles of the sermon on the mount. A master of his profession, renouncing all mere selfish ends."

BOOK NOTES

NOTE: These Book Notes are intended to inform our readers of such books as we think will be of interest and value to them, the service of this department is not sold, and the opinions expressed herein are not subject to control of any except the editors. Books likely to be of value or interest to our readers are welcome, and will receive the best attention we can give them. Our obligation is to our readers.

* * * *

The Eighteenth Amendment and the Part Played by Organized Medicine. By Charles Taber Stout. 12mo., pages 216, Green Cloth. Mitchell Kennerly, New York. MCMXXI. $1.50.

No book recently coming to us has awakened more and pleasanter anticipations of a profitable constructive study of its subject, than did this book.

Before entering upon the perusal of it, we set about learning something of the author and the publisher of this book. We turned to "Who's Who," volume twelve, but could find nothing of the alleged author. Of the publisher, we learned that he was born in England in 1878, and came to New York as the agent of an English publishing company in 1896; also, that he holds membership in several clubs in New York, and in the New Oxford and the Cambridge clubs in London. A very laudatory "Biographical Sketch of the Author," accompanied the book, in which we are told that his "family traditions and ideals, * * * * although individual, have had such a large influence on our national life." That "he was educated at St. Austin's School, now Saulsbury School." That he worked for a New York Stock Exchange firm, and for the estate of a "great merchant and banker. Rose from a junior clerk to a confidential position. Was interested in sports and athletics. Became a golf player, and learned by the 'chance remark' that a man often played his best game of golf after a night at cards and Scotch whiskey, * * * and he began to study the effect of Scotch on the Scotch game." He became a farmer, "read many text-books on farming and germicides, sanitation, medicine, 'medical politics' alcohol and prohibition." *"The results of his systematic work on alcohol and its relation to medicine and the medical profession are embodied in his remarkable book."* (Italics ours).

The author in his preface says, "The first few pages of this book were included in a paper written as a protest against the candidacy of a regular Army officer who was seeking the nomination of one of the great parties for the office of President

of the United States. This general officer had entered the Army through the medical branch of the service and still maintained his membership in the medical organization, which expected to avail itself of his Administration (if it ever became a reality) to push its special legislative program. Ten days after the protest reached its destination, together with the protests of others, an inquiry as to the source of the candidate's campaign fund was begun in the Senate. That investigation ended his presidential aspirations.

"With this inception the book has been continued and completed in order to draw public attention to a question of National concern—the real meaning of the prohibition movement, and its relation to Organized Medicine and its interests. Under the guise of altruism, a grave injustice has been imposed upon a free people by a relatively small number of zealots and profiteers. It seems important, therefore, that the public should know the facts."

In the introduction, page 8, we read, "We traced some of the propaganda down to its sources. * * * The moral plea on which prohibition was originally put forward had now been subordinated to the question of health. The American Medical Association had joined the ranks of the anti-alcoholists and had passed a resolution condemning alcohol both as a food and a medicine. We followed the activities of the association through its various channels of influence. The trail led from one of the great medical institutions to another, until it finally brought up in the medical departments of the National Government.

"We found a giant organization (the A. M. A.) occupying the center of the stage. Torn by factions within, pressed on all sides by virile foes without, it was turning and twisting, grasping at any weapon which would preserve its life for even a short time longer. It was medievalism struggling against the advance of civilization. * * * We found the reason why disease has been able to flourish in spite of all that science has accomplished for its control. We found men of international reputation in the world of medicine prostituting their profession, and forgetting their honor, to maintain an organization which has long outlived its usefulness and which has no place in a civilized community in a modern age.

"There is but one excuse for prohibition, and that is ignorance. Is the ignorance displayed by our medical authorities on the subject of alcohol real or assumed?"

The author declares, "*The fate of the Eighteenth Amendment in the Supreme Court cannot be allowed to end the controversy. There is more than a legal principle involved: there is the vital question whether a nation can defy the laws of nature and still maintain its economic position.*" (Italics ours). We are told that Noah complied with the "Law of Nature" referred to, and that his son, Ham, castrated him while he was drunk, and that awakening in a drunken temper he cursed his innocent grandson with a curse which has descended to this time on the offspring of the grandson (Ginsberg, Legends). Alexander The Great died obeying these *laws of nature.* Belshazzar, with a thousand of his lords, drank wine while the Medes and Persians dammed off their water supply and used the bed of its river to enter and surprise the city of Babylon during their drunken "nature" orgies. Greece was drunk with wine, debauched in libertinism, and lost its entire national integrity. Rome, the mistress of the world, was debauched with wine and fornication and fell into oblivion. In China, "The Laws of Nature" thirsted for opium, and look at the results. France and England obeyed "The Laws of Nature," for wine and beer, while Germany guzzled her lager. Remember the unscrupulous invasion of peaceful neighbors by Germany, and witness the subsequent ruthless warfare. See the hardy race which went from the land of the Eighteenth Amendment and swept the *Huns* from the fields they had claimed for carnage and revelry. Americans! whose sires have seen the average of human longevity in the registration districts in their Land of the Eighteenth Amendment, in half a century, the period of the prohibition agitation, and the greatest period of scientific medicine, extended from thirty-four years to fifty-one years.

The character of this book is too evident from the quotations cited to need a more extended notice in these columns. It is from the pen and press of propagandists, and is characterized by the same billingsgate which has so often been displayed by the so-called fanatics on the one hand and the interests on the other hand. It is not literature; it is a tirade.

The author of this tirade no doubt finds that the American Medical Association "has long outlived its usefulness," because as secretary-treasurer of a proprietary medicine company he tried to "put over" some pseudo-scientific nostrums which were exposed by the *Journal of the A. M. A.* The "giant organization occupying the center of the stage" must have done great damage when it declared that the author's single shot of "dope" was not good for all dog diseases, and his unlimited dosage of creosote for human beings might be harmful, and that his claims for both were extravagant and untrue.

The Treatment of Fractures: With Notes Upon a Few Common Dislocations. By Charles L. Scudder, M. D., Assistant Professor of Surgery at the Harvard Medical School. Ninth Edition, Revised. Octavo volume of 749 pages, with 1,252 illustrations. Philadelphia and London: W. B. Saunders Company, 1922. Polished Buckram, $8.50.

Six years have elapsed since the last previous edition of this work, but its author has diligently taken care of the many improvements in the treatment of fractures which have been accepted by surgeons within that period, such as the Carrel-Dakin treatment of infected wounds, the management of recent fractures, the recognition and treatment of shock, first aid dressing, transportation, minimizing trauma, the emergency traction, immobilizing, etc.

The text is divided into twenty-three chapters, as follows: Fractures of the Skull, Fractures of the Bones of the Face, the Vertebrae, the Ribs, the Sternum, the Pelvis, the Clavicle, the Scapula, the Humerus, the Bones of the Forearm, the Carpus, Metacarpus and Phalanges, the Femur, the Patella, the Leg, the Ankle Joint, Pott's Fracture, Fracture of the Bones of the Foot, Operative Treatment of Fractures, Pathologic Fractures, Anatomic Facts Regarding Epiphyses, Gunshot Fractures of Bones, Roentgen Ray and Its Relation to Fractures, The Employment of Plaster of Paris, The Ambulatory Treatment of Fractures, Notes Upon a Few Dislocations.

Neither this book nor its author needs any introduction to the members of the profession in Texas. Its value was established with the publication of the first edition, and each succeeding edition has only proven afresh its value.

The publishers have done their usual excellent work of making a substantial book of it, but have departed from the conventional medical binding, both as to color and material. It is bound in a strong, light-colored buckram. It should replace all former editions in the hands of surgeons.

Texas State Journal of Medicine

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DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH OF TEXAS

The San Francisco Session of the A. M. A. proved a profitable and pleasing experience to those of us who gave up the necessary time and money to make the trip. A trip to the Pacific Coast is always enjoyable, including the journey each way, and when there is added to the entertainment thus afforded an opportunity to participate in the scientific deliberations of the greatest group of physicians on earth, and enjoy the hospitality of the most hospitable people in the world, there is little left to be desired. Previous experiences of this character, the last one occurring some eight years ago, has evidently led others to the same conclusion, as was evidenced by the registration, 3,765, which was some 1,500 above that of the last session held in San Francisco. Considering the expense and the time consumed, the attendance was really noteworthy. The profession of the West, even, had to travel some little distance to get to San Francisco, and when we back up and start from the Middle West, East and "Down East," the trip becomes a journey. The following Texas physicians, numbering 106, were registered at San Francisco:

John V. Gaff, Joe Gilbert, Austin; W. G. Trice, Axtell; Wm. W. Bouldin, Bay City; J. W. Garth, Beaumont; J. M. Frazier, Belton; J. Z. Young, Buckholts; C. L. Root, Colorado; Marcus A. Weems, Columbia; Homer B. Jester, Corsicana; O. M. Tinsley, Conroe; W. W. Latham, E. B. Stokes, Crockett; John W. Burns, Cuero; Ernest W. Breihan, Geo. T. Caldwell, E. H. Cary, J. M. Coble, Elbert Dunlap, Robert L. Giles, B. Kinsell, Kenneth M. Lynch, John Oliver McReynolds, H. Leslie Moore, Albert Wilkinson, Dallas; J. T. Sanders, Dilley; F. L. Thomas, Easterley; J. H. Carter, Eastland; H. L. Robertson, Elmona; Wm. L. Brown, F. D. Garrett, James W. Laws, J. A. Rawlings, H. H. Stark, B. F. Stevens, H. E. Stevenson, George Turner, El Paso; J. E. Gilcreest, Ennis; C. P. Graves, Everman; Robert E. House, Ferris; E. H. Bursey, I. C. Chase, Charles H. Harris, Bacon Saunders, Holman Taylor, Ross Trigg, Fort Worth; T. G. Curry, J. C. Holman, Franklin; E. D. Crutchfield, M. L. Graves, Titus H. Harris, W. F. Spiller, Galveston; Hatch W. Cummings, Hearne; W. W. Coulter, Everett L. Goar, A. S. Holley, Moise D. Levy, Jeffrey C. Michel, S. C. Red, J. W. Scott, Houston; L. H. Bush, Huntsville; John R. Moseley, Jefferson; E. H. Sauvignet, Laredo; W. H. Anderson, Littlefield; W. M. Cole, V. R. Hurst, W. D. Northcutt, Longview; W. M. Gipson, R. B. Touchstone, Lytle; G. P. Day, James E. Morris, Madisonville; S. P. Rice, Marlin; J. E. Cook, Mart; Sterling Price, Mertens; M. E. Parker, Navasota; James M. Rogers, Neches; M. C. Hagler, New Braunfels; J. F. Bell, Oakwood; John G. Motley, Overton; James M. Hooks, Paris; J. E. Beall, Pearsall; H. V. Woolsey, Penelope; A. D. Gibson, Port Lavaca; A. C. Surman, Post; E. O. Evans, Theo Y. Hull, L. B. Jackson, Arthur S. McDaniel, I. L. McGlasson, T. L. Moody, Minnie C. O'Brien, T. J. Walthall, San Antonio; P. J. Shaver, San Marcos; Albert B. Watkins, Seagoville; Norman A. Poth, Seguin; Joseph H. Holt, Sherman; A. O. Scarborough, Snyder; S. A. Collom, L. Herbert Lanier, Texarkana; E. L. Lawrence, Thorndale; Irwin E. Colgin, John E. Lattimore, H. R. Dudgeon, Garland B. Fosque, J. M. Witt, William Alva Wood, Waco.

The official route selected by the Transportation Committee of the State Medical Association was patronized to the extent of one Pullman car load, which was much less than should have been the case. It is realized that many physicians travel on passes, and that there were diverting influences, but it is rather unfortunate that we do not congregate more than we do for journeys of this character. Those who joined the official

party were pleased with their experience, to express the situation mildly. The Fort Worth & Denver and Sante Fe roads, exerted themselves no little to make the trip pleasurable. By making the first part of the journey over the Fort Worth & Denver, twelve hours were saved. By taking the Santa Fe on the going trip, instead of continuing on with the Fort Worth & Denver, in our opinion the scenic wonder of the world, the Grand Canyon of Arizona, was visited, and the trip then completed in the minimum time, thus allowing the greatest diversity of side trips for the journey home, after the party had broken up. Arriving at Los Angeles, where the party really divided, there was a choice of three routes, the Imperial Valley, the Coast Line, and the Pacific Ocean, to San Francisco, and the opportunity to spend as much time as was desired in the environs of Los Angeles, including Hollywood and movie land.

All of the sessions of the Association were held in the magnificent city auditorium, and there was room to spare for the accommodation of the scientific and commercial exhibits, and then some. The advantages of this arrangement can be appreciated only by those who have attended the sessions of the A. M. A. The time saved and the lost motion avoided is considerable. The scientific program seemed to please those who attended the meeting of the sections. Certain it is that the most up-to-date and helpful subjects were discussed, and by those in authority and competent to advise.

The following Texas doctors appeared on the published program of the Scientific Sections:

"The treatment of the Velum Palati in Operations for the Repair of Congenital Fissure of the Palate," James E. Thompson, Galveston; Chairman's Address, Section on Ophthalmology, John O. McReynolds, Dallas; "Ophthalmia Myiasis Externa, Due to Larvae of Oestrus Ovis," H. H. Stark, El Paso; "The Occurrence of Blastobystis in Intestinal Inflammation," Kenneth M. Lynch, Dallas; "Hyperglycemia as an Etiological Factor in Certain Dermatoses," I. L. McGlasson, San Antonio; "Dermatoscopy: A Study of Blood Vessel Form and Arrangement in Various Dermatoses," Jeffrey C. Michael, Houston; "Osteomyelitis Variolosa," W. L. Brown, El Paso; "The Three Meal a Day Regimen: Comparative Caloric Values," discussed by H. G. Walcott, Dallas.

Closely supporting the scientific section: the scientific exhibits were noteworthy. I was really distressing, the short time at th disposal of those in attendance. The scientifi work of this session could have been easil spread over twice the length of time allowe Not the least educational in character wer the splendid commercial exhibits, coverin as they did almost every item in the arma mentarium of medicine. It is really astor ishing how much of value one can receiv from an exhibition of this character.

The social features of the meeting were, a had been expected, delightful. The Pres dent's Reception was held in the several ba rooms of the Fairmont Hotel, one of the sho places of the city. There was little oppor tunity for organized entertainment of Fe lows, but the women visitors were given cor tinuous receptions, drives and the like. Pres dent and Mrs. Wilbur entertained Fellows an their ladies at a reception at Stanford Un versity, which was a most highly enjoyabl affair. The profession of California joine with the profession of San Francisco as host in a way rather unique. Clinics were provide in every center on the Pacific Coast, even ou side of California, both before and after th meeting. A beautiful and elaborate bookle was published by the California professio giving information concerning the clinics an likewise the scenic wonders of the Pacif Coast, which was furnished all who re istered, and copies of which may still be ha by addressing Dr. Wm. Musgrave, Balbo Bldg., San Francisco, chairman of the loc Committee of Arrangements.

A notable feature of the meeting was th publicity given by the press to scientif medicine. It is to be hoped that this pul licity will prove beneficial to the citizens California, who have our warmest sympath in the face of their affliction with so mar cults, isms and quacks. Indeed, the oppo tunity to offset the baneful influence of th type of people, was one of the factors whic took the Association to San Francisco.

The Women's Auxiliary of the Americ Medical Association, which idea had its i ception in Texas, was finally and firm launched at the San Francisco meeting. Th temporary organization had been perfected

St. Louis the year before. Plans for pushing the organization were finally decided upon and set in motion. Each of the vice-presidents elected has been assigned twelve states to organize. Fourteen states were represented at San Francisco. The following officers were elected for the ensuing year: President, Mrs. S. C. Red of Houston, Texas; President-Elect, Mrs. J. Allen Hodges of Richmond, Va.; Vice-Presidents, Mrs. Southgate Leigh, Norfolk, Va., Mrs. Robert E. Farr of Minneapolis, Minn., Mrs. Seale Harris of Birmingham, and Mrs. F. P. Gengenbach of Denver, Colo.; Recording Secretary, Mrs. W. A. Wood, Waco, Texas; Corresponding Secretary, Mrs. H. L. D. Kirkham, Houston, Texas; Treasurer, Mrs. A. E. Baker, Charleston, S. C.; Parliamentarian, Mrs. Harris Smith, Delta, Colo.

The American Medical Association Is Progressing, according to the reports of its officers and its Board of Trustees. Secretary Dr. West tells us that the membership on May 1 of this year was 88,519. This is an apparent decrease of nearly 500. It is not possible to say exactly what the membership is, particularly in the spring of the year, at which time state associations, for the most part, have not reported. It will be understood that reference is to membership and not to Fellowship. The former comprises all members of state associations and the latter only those who contribute to the support of the scientific assembly. There were 55,444 names on the Fellowship roster May 1, which is a net gain of 422 over last year. Of these Texas supplied 1,696, which is better than one-third of our membership. We presume we should not complain, but it does appear that considering the intelligence and ambition of our members as a whole, we should come nearer 100 per cent than 33 1-3 per cent.

Secretary West, speaking of the state of organization of the medical profession, had some very pertinent remarks to make, from which we quote, for the edification of our readers who have not thought much about this matter, the following paragraph:

"Our scheme of medical organization is, theoretically, extremely democratic. In its practical application it is evidently the desire of the members and of the officers of this Association that it shall operate along democratic lines to the fullest extent compatible with effective methods and with the possibilities for real accomplishment. It would seem, therefore, that the constituent state association should assume initiative in most organizational affairs and in most movements of interest to the medical profession. There appears to be, however, a very decided difference of opinion as to where the initiative of the American Medical Association should begin and where the responsibility of the constituent state association leaves off. There are those things which the state association must do for itself, which the American Medical Association cannot do for it and should not do if it could. There are those things which the state association can do for itself or which the American Medical Association can do for it. In such matters it would seem wise for the state association to take the initiative and for the parent body to act only on the request of the constituent organization. There are still other things that the American Medical Association can do for its constituent and component societies and their members which they cannot do as independent organizations. These the Association should do on its own initiative and to the limit of its facilities. The publication of seven scientific journals and a magazine for the lay public, all of which have won recognition as meritorious periodicals, is evidence that the Association has not been unmindful of its duties and responsibilities. The headquarters organization is a veritable service bureau, in which all departments co-operate in replying to thousands of inquiries of every conceivable kind each year. Numerous other examples of service rendered by the Association in an effort to discharge the responsibilities which devolve directly on it might easily be cited. That so much has been done is an earnest that more will be undertaken, when, as a result of constructive criticism, supplemented with constructive suggestions, methods can be devised and means provided. It is for this House of Delegates, composed of the chosen representatives of the nearly 90,000 physicians who make up its membership, to determine, and define the policies of the Association with respect to its relations with component and constituent societies, its relations with other organizations, and its relations with the body politic."

The Trustees informed us that the Association was $263,470,91 richer than it was the previous year. Figuring all of the factors usually taken into account by auditors, it seems that the Association is worth at this time $1,263,411.24. In view of the multiplicity of expensive activities of the organization, that seems to us to be doing pretty well. We fancy we are in a better position to fight the fight of the "rank and file" of the profession with that much money on hand than we would be if we had been dissipating it all along in a sort of bushwhacking

campaign. That much in view of the criticism heaped upon the devoted heads of our Trustees by certain malcontents and, we regret to say, some of them our esteemed contemporaries in medical journalism.

The Trustees reported a delay in the completion of the new buildings in course of construction, due to labor troubles and disturbance in the price of material. One building was sufficiently complete early in the spring to permit of the transfer of several departments thereto, and it is anticipated that the rest of the buildings will be ready for occupancy this fall. When completed the buildings already existing and now under course of construction will cover a space 100x160 feet, six stories and basement.

The Journal of the A. M. A. averaged during the preceding year, 80,862 copies per week. Of these, 2,356 come to Texas. On a percentage basis, taking the A. M. A. Directory record of 6,205 physicians in Texas, 38 per cent of us receive *The Journal.* There are just eight states in the Union receiving such a small percentage of copies. Arkansas, with 26 per cent, is at the bottom of the list, and Minnesota, with 69 per cent, is at the top. The great value of *The Journal* to the medical profession is hardly realized. It brings to subscribers the latest and most dependable scientific discussions, in both the original articles sections and the editorial and current comment columns; supplies us with the latest and always authentic news relating to medical matters throughout the world, and then furnishes us with funds with which to continue our work as an organization. During the preceding year the advertising department earned a little more than $600,000, which was an increase of over $31,000 over that of the year before. *The Journal* is now published in Spanish, for the benefit of our Spanish-American physicians, who are hardly in a position to serve themselves in this particular. The Spanish edition was published last year at a loss of more than $11,000. In addition to this, the Association publishes five special journals, three of which have been published at a profit and the income of all of which increased materially during the year.

The Directory has been published now for the eighth time. The previous Directory, it has just been determined, was published at a net loss of $1,138.99, which is apparent rather than actual, in view of the fact that the Directory now absorbs the expenses connected with the Biographical Department of the Association, which would necessarily fall elsewhere if the Directory were not published. It is thought that the Directory henceforth will be practically self-supporting.

Hygeia, the lay publication so recently inaugurated, had on the first of last May, 19,500 subscribers, the results of three months' effort. Considering the important role of this publication in the matter of educating the public on medical and health subjects, this beginning is most auspicious, indeed. As the medical profession learns, and as the public comes to understand the true purpose of this publication, its subscription list must increase enormously. Indeed, but for the prevailing idea that there is no such thing as something for nothing, we could afford to assume the expense of publishing *Hygeia* for the good it will do. As a matter of fact, the House of Delegates at San Francisco, ordered the discontinuance of the Council on Health and Public Instruction, which has accomplished in the few years of its existence untold good, and relegated its function to *Hygeia* and its advisory editorial board. This is as had been anticipated by those who had been for some years studying and considering the advisability of such a publication for such a purpose.

The Bureau of Legal Medicine and Legislation, authorized at the St. Louis session, has gotten into full swing, it seems, and the report of its scholarly and efficient Executive Secretary is at the same time a statement of much that has been accomplished and an evidence of much more that may be accomplished. It will be recalled that the Trustees were directed to establish this Bureau to "(a) co-ordinate the activities of the several constituent state associations, (b) ascertain and crystallize the opinions of the medical profession and the said constituent associations, and (c) represent the American Medical Association in the consideration of all legislative matters pertaining to medicine or the practice of medicine and the public health." It will be observed that the Bureau is not to initiate legislation so much as to coordinate activities and crystallize opinion. It has busied itself with ironing out the wrinkles in the National Prohibition Act, the Harrison Narcotic Law, and the Sheppard-Towner Maternity Act; correcting alleged abuses in the Veterans' Bureau and Federal income tax law, and assisting State Association in legislation relating to the practice of medicine. Numerous special problems have been dealt with, referred by the House of Delegates, which will be considered elsewhere in this discussion.

The special committee appointed at St. Louis to consider the division of the American Medical Association into district or regional societies, as recommended by the then retiring President, Dr. Work, and the assignment to these several districts of certain legislative and political activities, made a most compre-

hensive report, and its recommendations were adopted. The committee took up the history of the problem, which dates back into the early days of the reorganization, and in detail showed just what each House of Delegates had to say about it, all of which was inconclusive, to say the least of it. The several recommendations heretofore advanced, according to the committee, resolve themselves at this time into three main subdivisions, as follows:

"1. Districting for the purpose of election of trustees, one trustee to be elected from each district. For this purpose not more than nine districts would be possible, for there seems to be no difference of opinion in regard to the wisdom of keeping the membership of the Board of Trustees within that number.

"2. Districting for the purpose of business and administrative purposes, with the view that such district organizations would supplement the work both of the American Medical Association and of the state associations.

"3. Districting for the purpose of scientific and clinical meetings."

The committee refused to recommend as to the first project, on the ground that the Board of Trustees would deal with the problem elsewhere. It recommended that for purposes of business and administration, the project be abandoned, on the ground that the energy required to make a success of the innovation could better be expended in perfecting the present plan of operation. The committee further recommended that no attempt be made to organize districts for scientific and clinical meetings, believing that the initiative in such matters should be with the localities concerned, and that divisions on artificial lines would not be practicable.

The recommendation of the Board of Trustees, partly in this regard, was that the term of the service of Trustees be five years, with a limitation of two terms in consecutive service. This recommendation was embodied in an amendment to the constitution, which was laid upon the table for consideration at the next annual session. The recommendation of the Board that the President, President-Elect and the Speaker of the House of Delegates be *ex-officio* members of the Board of Trustees, without the right to vote, was embodied in certain amendments to the by-laws, and the new plan is now in effect.

The A. M. A. publishes a most interesting "Bulletin." Very few know of its existence. It deals exclusively with problems of organization. It has heretofore been sent to officials of the Association and its constituent bodies, and for that reason the valuable discussions appearing in its pages have not come to the attention of either members or Fellows. The Speaker, in his message to the House of Delegates, recommended that the *Bulletin* be abolished and space set aside in *The Journal* for the discussion of the problems ordinarily dealt with therein. The secretary, appreciating the fact that the *Bulletin* had not come up to expectations, recommended that it be sent complimentary to the Fellows of the Association as well as to officials of state and county medical societies, as at present. The Board of Trustees endorsed this suggestion and the House of Delegates approved it. We feel that this is a wise move, and that it will serve materially to reduce the senseless criticism of those in authority in our national organization, so much in evidence of late years.

It seems that the Propaganda Department is increasing its activities, largely upon the demand of the public and likewise because *Hygeia* gives opportunity for expression. The attention of the profession and the laity of other countries, even in Europe, has been attracted. The notable accomplishment of this department during the year was the exposure of Abrams and his theories, removing this particular brand of quackery from the realm of the reputable to that of the low-grade medical profession.

The Council on Pharmacy and Chemistry and the chemical laboratory, continue to operate satisfactorily. The activities of this Council have shifted from the shotgun proprietary mixtures, which constituted such a serious problem in scientific medicine a few years ago, to the mixed vaccines, pleuriglandular preparations, products especially intended for intravenous therapy, and an attempt to commercialize our new knowledge of vitamins. Reports on these products have been full and fearless, and are free. There has, also, been some original research in materia medica. The following resolution, bearing on the prescribing of organic products, was referred to the Council on Pharmacy and Chemistry, with the implied approval of the House of Delegates:

"*Whereas*, The indiscerminate and unscientific use of preparations containing organic extracts or endocrines is liable to produce seriously injurious effects, and whereas products containing such substances are now being widely exploited as curealls and prescribed by physicians who are misled by the unwarranted claims of certain manufacturers. Therefore, be it

"*Resolved*, That ths Association unqualifiedly condemns the methods and claims of the said manufacturers as being unworthy of the consideration of the medical profession."

At the St. Louis meeting, amendments to the by-laws of the Association were adopted authorizing the Board of Trustees to change the annual dues, within certain limits. The Board announces that in all probability, acting under this authority, the dues will this fall be reduced to $5.00.

The A. M. A. House of Delegates is the busiest legislative body of which we have any knowledge. At San Francisco it accomplished much, including the usual amount of buck-passing. In this connection, the Speaker recommended that the House of Delegates meet semiannually instead of annually at the time of the Annual Session, as at present. The House did not take well to this plan, nor to the alternate suggestion of the Reference Committee that it meet annually four days before the convening of the scientific assembly.

There has been much criticism of the House of Delegates, principally from the standpoint of representation. That does not appeal to us as being the trouble. There is not enough time, and those in attendance are frequently too anxious to get the business of the Association dispatched. Some members of the House seem to consider their own opinions as sufficient, and for that reason do not care to indulge in debate on any given problem. In other words, they consider the House of Delegates a place for matching opinions on problems and not for the solution of problems. That, of course, simplifies matters considerably, the results of such "deliberations" being purely a matter of mathematical calculation. That would be perfectly all right if we could be assured that each member had given due consideration to any problem in hand, and had before him all of the data, facts and arguments pro and con, but such is rarely ever the case. For instance, the delegate from the Section of Diseases of Children, Dr. Abt of Chicago, very much disliked discussing the problem of prescribing alcohol, and evidently had his own opinions well fixed in his mind. For that reason he shut off debate on these momentous problems, after they had been considered by the Reference Committee almost continuously for three days, by a motion to table. There have been other occasions of this sort. Speaking of the function of the House of Delegates, President Wilbur made a very pertinent remark, namely, "This House of Delegates should be, as it is, a great policy-making body. I think sometimes it acts as an administrative body. No large body can do efficient work without an effective organization."

Texas was represented in the House of Delegates by a full delegation, as follows: Drs. J. W. Burns, Cuero; E. H. Cary, Dallas; Holman Taylor, Fort Worth; S. P. Rice, Marlin, and G. B. Foscue, Waco. Dr. Taylor was made chairman of the Reference Committee on Legislation and Public Relations, and Dr. Cary was appointed a member of the Reference Committee on Constitution and By-Laws.

It is not practicable to deal here with all of the transactions of the House of Delegates. We will mention briefly such as are of interest, and perhaps dilate somewhat upon some of the most important of its acts.

Upon the suggestion of the Speaker, the Secretary was directed to prepare a compilation of the policies of the Association, as set forth in previous decisions of the House and its other responsible bodies, and supply these to the constituent state associations and all concerned, with instructions to conform thereto. There has been much dereliction in this respect. Constituent associations, scientific sections and various other groups, have assumed to announce policies on various medical problems, the which is and must be the function of the House of Delegates, and which is often at random with the decisions of the House of Delegates. This is an important step forward in the effort to co-ordinate action in our rather large and unwieldy organization. It is this discrepancy that has been taken advantage of by those of our number who are personally and by prejudice interested in socializing the practice of medicine. As the Speaker well remarked, " * * * This is the most momentous and important subject that now confronts us and presses for solution. And unless we concern ourselves with it we might as well rewrite the preamble and object of our federacy and openly announce that, as an organization, we are concerned only with the scientific features of our profession, and withdraw from further participation in matters of public concern and public consideration."

While agreeing to the work of the Red Cross in time of war, and even in the field of public health in time of peace, the House of Delegates reiterated its demand that the Red Cross withdraw from the field of medicine and community clinic activities.

The proposed Federal Department of Health came in for considerable thought. The latest plan is to inaugurate a "Department of Educational Welfare." A conference at Washington, January 17, agreed that if the health activities of the Federal Government were to be included, the term "Health" should be included in the designation of the department. Later, in officially announcing the plans, no mention was made of this proposed change of name, and it appears further that, if the determination to carry out this plan be persisted in, each of the four bureaus included in the department is to be headed by an "assistant secretary," under the direction of a political appointee, and hence subject to change without reference to technical qualifications. This is not entirely agreeable. The speaker made the suggestion that a committee consisting of

the President, Secretary, Chairman of the Board of Trustees, Secretary of the Bureau of Legal Medicine and Legislation and Speaker of the House of Delegates, be appointed to direct our share of the deliberations in future conferences of this sort, and it was so ordered by the House of Delegates.

In spite of the complaint that the House of Delegates had been somewhat selfish in the matter of reserving accommodations for its members at the best hotels each year, the Secretary was directed to make such reservations. In this connection, it was pointed out that it facilitates the work of the House to have the delegates as conveniently grouped as may be possible.

The several amendments to the constitution submitted at St. Louis last year, to be acted upon this year, and pertaining to the composition of the House of Delegates, and particularly the representation therein of the several scientific sections, were withdrawn upon request of their several authors. By-laws pertaining to the same problem were likewise withdrawn. Thus apparently cometh to an end much senseless agitation. Perhaps there will be legislation on this problem later on, as the need for it arises, and it may arise, but the representations heretofore made appeal to us as having been in response to a spirit not altogether lovely. We are prone to believe that the question will receive further consideration for the reason that "pure scientists" are not always good legislators, and persons of this type are quite likely to be selected by groups made up largely of that kind. As a legislative friend of ours once remarked, "It is all right to condemn politics and pray for statesmanship, but it must be remembered that unless the statesman can be elected to office he will have small opportunity to state anything." One must be practical and adaptable to legislative procedure in order to make good in legislative halls.

The requests of the anesthetists for a special session for the discussion of the subject of anesthesia, was denied on the ground that it was to the advantage of the medical profession as a whole and the anesthetists as a specialty, to have papers on anesthesia and allied subjects before several of the scientific sections, that all may be informed. It appeared, also, that the organizations, at the instance of which the request was made, and which would be expected to participate in such a session, had within their membership those who are not Fellows of the A. M. A. The same reasoning led the Council to deny the request that a special section on Physiotherapeutics and Hydrology be instituted. These acts of the Council were approved by the House of Delegates, and the policy of making no further change in the scientific sections was reaffirmed. The increasing importance of special medical activities, however, was recognized by the House of Delegates in specific reference thereto, particularly those covering radiology, physiotherapy and occupational therapy. Radio-therapy was declared an integral part of medicine and surgery, in view of the fact that technicians were assuming considerable importance in that field. In this connection, the by-laws were amended to provide that scientific papers to be read before the Association be read in the order of their appearance on the program, and that they be ready for publication and handed to the secretary of the section before being read. The policy of making the scientific exhibits support the work of the scientific sections, was adopted.

The vocational training of chiropractors, under the Veterans' Bureau, again came in for consideration. The Bureau of Legal Medicine and Legislation had thoroughly investigated the situation but to no satisfactory conclusion. It seems that the director of the Veterans' Bureau had announced that no new contracts for chiropractic training would be made except as authorized by him personally, which statement he recently retracted. It will be recalled that the Association at St. Louis adopted rather strong resolutions against this practice, as did our State Association at Fort Worth. Just before the session adjourned, however, a letter was received from the director of the bureau in which the statement was made, that while it was necessary to stand by existing contracts in the matter of training chiropractors, only those who have educational qualifications which would permit them to enter "Class A" medical colleges would be accepted for this training, and that no additional men would be entered in such training after the completion of the present contracts. That seems to adjust the whole problem quite satisfactorily.

The problem of malpractice indemnity and defense, was laid at the door of the Board of Trustees last year at St. Louis, and the Trustees promptly passed the buck to the Bureau of Legal Medicine and Legislation, which conducted an exhaustive investigation of the whole problem. To make a long story short, and pass over some very interesting discussion, the conclusion was arrived at that the American Medical Association could hardly intervene in such matters, service of this character being best rendered by the constituent associations. The part of the A. M. A. was held to be to assemble records, in both inferior and superior courts, analyze them from both the medical and the legal standpoint and make the information contained

therein available to constituent associations in dealing with their respective problems. According to our opinion, this is a wise conclusion, indeed, and it was approved by the House of Delegates. It was our observation last year, that no medical society could afford to organize itself for the purpose of paying indemnity in this or any other character of suit. The Bureau of Legislation is giving its attention continuously to legislation in the states relating to the practice of medicine, and has rendered invaluable aid in this particular. The same sort of help will be an advantage as relates to malpractice. Problems of this sort are being daily referred to the Bureau. A resolution looking to the protection of laboratories in the enactment of state laws was so referred, with instructions to render all the assistance possible.

The Gorgas Memorial Institute of Tropical and Preventive Medicine again received the approval of the House of Delegates, and the new plan put forth for organization was agreed to. Dr. Franklin Martin has been made vice-president and chairman of the board of directors, and will direct the movement from now on. The intention is to raise the sum of $5,000,000, which will be invested and the interest used to carry on the institution thus endowed in memory of our illustrious fellow physician, Dr. Gorgas. The money will be raised by a committee of 100, physicians and laymen, in each state and each province of Canada and the Latin American Republics. There will be a committee of 10 in each county and in each city of over 100,000 inhabitants, and subcommittees in wards of the larger cities. It is intended to interest labor organizations, the national organizations, school children, the medical profession and the public in general. There will be tag days, popular subscription, a Gorgas Sunday, and the like, beginning October 3, 1923, the anniversary of the birth of General Gorgas, and closing July 4, 1924, the anniversary of his death. No doubt the medical profession, particularly of Texas, will do its part in memory of this great man, who was almost a Texan.

The committee appointed last year to cooperate with other organizations in a survey of the various forms of drugless therapy, reported that it was not able to accomplish anything because there was no body with which to co-operate, and under the instructions of the House of Delegates the committee was not authorized to proceed on its own account. The committee felt, however, that other organizations might be interested and that the work might proceed during the forthcoming year.

The action of the Governor of the State of New York in calling a conference of the medical profession for the purpose of considering the important questions of public health, medical education and the practice of medicine, was warmly commended. So far as is known this is the first instance in the history of this country where such enlightened action has been taken.

The usual exhaustive report on the problem of medical education and hospitals was made by the Council. Since last year the number of medical schools has decreased from 83 to 81, through the closing by the State Universities of Michigan and Ohio, of their separate Homeopathic Schools. This leaves the number of medical schools exactly one-half the number existing in 1906, the peak year. In the face of this decrease, the announcement was made that the Medical Department of the University of Rochester (N. Y.), an entirely new institution, will be completed and ready for teaching in 1924. Other medical schools have been enlarged and remodeled throughout the year, and several that have been giving but two years instruction have decided to give the full course.

In 1919 the total enrollment in medical schools was 13,052, which is the lowest number recorded since 1890. Since then the enrollment has been increasing at the approximate rate of 1,000 per year, the total for 1922 being 16,140. It was estimated that the enrollment for the current year will be 17,700, the largest since 1912. In 1922, the number of graduates in all the schools, 2,529, was small because they represented the war classes. The enrollment indicates that there will be approximately 3,000 to graduate this year, 3,800 next year and 4,500 in 1925. The last figures are approximately those of 1907. In 1916 the average age of students at graduation was 26.5. This average has increased to 26.8, which is small, considering the increased educational requirements.

The Council commented extensively on the improvements in teaching plans and plants. No longer is it the custom to allot a definite number of hours to each subdivision of a subject in the curriculum. A department is given a total number of hours to cover its several subjects, and these may be combined with other departments in such a manner as to permit of a saving of considerable time. Medical schools and hospitals are being included, as far as possible, in the same buildings, in order that laboratories and hospital wards may be in close conjunction, and libraries are being installed where they will in effect become common meeting grounds for those at work in the different departments, wards and the like.

Those concerned directly with the estab-

lishment of policy in medical education, seem to have come to the conclusion that the general practitioner should have the major consideration of the teacher, the specialist in the meantime not being neglected. It is estimated that from 80 to 90 per cent of all cases of illness can be cared for by the well qualified general practitioner. The rather astonishing conclusion has also been reached that 90 per cent of all patients can be cared for efficiently in their homes or in the offices of their physicians, without the intervention of the hospital.

The alleged shortage of physicians received close consideration by both the Council and the House of Delegates, and the conclusion was reached that it is rather a matter of distribution than actual shortage. It was pointed out that recent graduates in medicine very naturally prefer the cities, with their better social, educational and general living conditions, not to mention convenience of practice, the advantages of hospitals and the like. Also, with the improved transportation facilities people of rural communities have been going to the cities with their ailments, which leaves the country practitioner only the mild cases and the emergency cases, in neither of which is it possible to secure any but the most modest fees. It was the opinion of close observers that these conditions may be corrected in part, but only in part, unless conditions materially change. Any community can get a physician, and generally a good one, by pledging itself to produce a living income, under some sort of guarantee. Should the people of a community decide to resort to such a procedure, they would, of course, select their physician through a special committee, and guarantee an income of so much during the year. They would then be certain to give him enough of their business to produce the amount pledged. The certainty of income would surely attract well-conditioned young graduates, many of whom are not overburdened with funds. This plan has been followed with success in the Middle West, we are told. It should be understood that the advice to resort to such a plan does not cover the socialization of medicine, which would be certain to follow should the plan be operated on a *per capita* payment and free practice basis.

The importance of internships was recognized. There are 654 hospitals on the approved list for internships. This represents a capacity of 187,314 beds and affords 3,671 internships. This is sufficient to absorb the entire output of the medical colleges of the United States, including service for the specialists as well as the general practitioners.

Education of the trained nurse is of scarcely less importance than that of the physician. A special committee had been appointed to report on this problem. The conclusion was reached that the whole system of nurse education needs revision. A committee consisting of representative physicians who are competent clinical teachers, representative nurses and educators who are neither physicians nor nurses, will be appointed by the American Medical Association and the National League of Nurse Education, with equal representation, for the purpose of preparing a standard minimum curriculum for the training of nurses, and for the consideration of the several other highly important problems that have arisen in connection therewith. The nurse in training is obligated principally to the hospital, whereas in private practice her obligation is to the physician. Too frequently her time in the hospital is taken up by serving the institution and not in the study of those factors which she must master in her practice. Too frequently her teachers, selected from among the practitioners in the hospital in which she is trained, have no interest in the training of nurses, and perform their duties very indifferently. There is danger of making the educational requirements so high that sufficient number of student nurses may not be had, and on the other hand, there is danger of such low standards that the required intelligence will not be assured.

The increasing opportunities of medical organizations in the field of graduate instruction was pointed out by the Council, and the offer to co-operate with such organizations in providing courses of this sort, is made. Several university medical schools have long offered opportunities for graduate study in the pre-clinical branches, in connection with higher degrees and the like, but what is needed is an opportunity for the doctor to catch up with the procession, which has passed him while he has been devoting himself to the actual service of his fellows rather than to study. Generally, the amount of time physicians can give to this study is so brief that it is difficult to arrange courses to meet their requirements. Our judgment of the concensus of opinion is that what we are doing in Texas is about what is required. While our courses are short, they are well organized and with a definite purpose in view, and the teaching is in the hands of experienced teachers.

Numerous amendments to the by-laws were adopted, most of which have already been referred to herein. These have been embodied in a new edition, which may be had, we presume, by applying to the Secretary.

Upon the recommendation of the Judicial Council, the Principles of Medical Ethics were amended numerously, but in no very important particular. A new edition of this important book has been gotten out, also.

The Judicial Council made several rulings of interest. We note the following:

It was decided that radio broadcasting is a form of publicity and that it is subject to the same rules as apply to newspaper advertising.

It was ruled that it is not in keeping with the Principles of Medical Ethics for members to associate themselves with osteopaths, as such. It was pointed out that physicians cannot support those who base their practice on an exclusive dogma or sectarian system. However, it was ruled that physicians so associating themselves could not be debarred from membership (Fellowship?) in the A. M. A. in the absence of action by their respective component societies.

A legally registered osteopath in a state where the requirements and prerogatives are the same for all schools of medicine, once accepted as a member in a county medical society and who does not practice or claim to practice sectarian medicine, and has conformed to the requirements of the Principles of Medical Ethics, cannot be expelled therefrom without cause.

The Council held that the Board of Control of any hospital not maintained (in some states) by general taxation, has the legal right to refuse the privileges of the hospital at any time to any practitioner, regardless of so-called schools of practice. The fact that a physician is licensed by the state does not give him the right to treat his patients in any given hospital. The medical staff of such an institution has the right to refuse to accept as an associate any person whom it may consider objectionable.

It was held that physicians who practice in institutions, no matter of what character, occupy the same status of physicians in private practice, so far as membership and Fellowship in organized medicine are concerned. They can no more ask for membership without having complied with the laws of the states in which they reside than can other physicians.

Dr. William Allen Pusey of Chicago, was elected President-Elect over Dr. William D. Haggard of Nashville, by a close vote. Dr. Pusey is a recognized authority on skin diseases, an author of note and one of the best known physicians in the country. He will serve the Association well and do honor to the position.

Dr. William E. Musgrave of California, Secretary-Editor for the California Medical Society and chairman of the local arrangement committee, was elected Vice-President, by acclamation.

Drs. Olin West and Oscar A. Hayden, were re-elected Secretary and Treasurer, respectively. Dr. Frederick C. Warnshuis, Secretary-Editor for the Michigan Society, was re-elected to the position of Speaker of the House of Delegates, and Dr. Rock Sleyster, Secretary of the Wisconsin Society, was re-elected Vice-Speaker. Drs. Walter T. Williamson of Oregon and Chas. T. Richardson of the District of Columbia, were re-elected Trustees, and Dr. J. H. J. Upham of Ohio, elected to succeed Dr. Sarles, who desired to retire from active service on the Board. Dr. Upham will be remembered as Secretary-Editor in Ohio for many years, and at the present time acting as emeritus adviser in all medical and public health matters in his neck of the woods.

The Alcohol Question came before the House of Delegates at San Francisco like a lion and left like a lamb, proverbially speaking. It is to be seriously regretted that the subject was not considered more at length. The attitude of the medical profession toward this question is still in the air, and the extremists on both sides are using professional opinion as represented by the A. M. A. to suit their respective needs. This is extremely unfortunate, as we have said, in view of the desire by the great bulk of thoughtful persons to know just what the doctor thinks about it. As it stands, the aforesaid thoughtful individual gets the views only of those who are occupying the two extremes, those occupying the middle ground not caring to discuss the matter, feeling their limitations.

The Reference Committee having this matter in hand, of which we happened to be the chairman, spent three days and nights discussing the subject with both sides, and the middle, and had very carefully prepared a report designed to bring out the discussion so that the House of Delegates might determine something definite if not final. There was no very great difference between those signing the majority and those signing the minority report, and an agreement could have been had if the members of the committee had been afraid, as certain members of the House of Delegates were evidently afraid, to come out in the open. The members of the Reference Committee, regular and *ex-officio*, did their own thinking, evaded nothing and feared less, and both minority and majority supporters were chagrined that the House should have tabled the report without debate. The discourtesy to the committee is overlooked but the opportunity to thresh the wheat and clear away the chaff, should not have been neglected. It could have been done

in a short time. The committee had cleared all issues and was ready to present the whole case when the motion to table was made by Dr. Abt, from the Section of Diseases of Children, who at this time and later insisted that the subject should not be discussed.

Several resolutions pertaining to the prescribing of alcoholic liquors had been introduced. They were all good, and dealt with different phases of the problem. The conclusion of the Reference Committee finally was to place before the House of Delegates the resolution submitted by Dr. Victor Vecki of California, with the recommendation that it be adopted. It was as follows:

"*Whereas*, It has always been the policy of the medical profession to maintain the confidence of their patients as as inviolate secret, and

"*Whereas*, The Volstead Act compels the physician to betray the confidence placed in him by his patient by publishing the nature of his illness, and

"*Whereas*, The said Volstead Act dispenses with the judgment of the physician when treating his patients by limiting the amount of alcoholic remedies he may prescribe; therefore be it

"*Resolved*, That the House of Delegates of the American Medical Association expresses its disapproval of those portions of the said Volstead Act which interfere with the proper relation of the physician and his patient, and be it further

"*Resolved*, That a copy of this resolution be sent to each of our Representatives in the House and the Senate of the United States."

Analyzing this resolution, it will be observed that very polite objection is raised to the requirement that the physician betray the confidence placed in him by his patient; that the judgment of the physician is dispensed with and that of a layman substituted in the matter of the amount of this drug which may be prescribed, and that complaint is made that laymen interfere with the proper relationship of the physician and his patient, which was deemed by the committee to be a fundamental proposition. It is difficult to find any fault with this resolution, other than the fact that it deals with the prescribing of alcoholic liquors. There are those who cannot abide the thought and will not attempt to solve the riddle. It was not the idea of the Reference Committee that the House of Delegates go on record as being in favor of the indiscriminate prescribing of alcoholic liquors. Nothing was farther from its unanimous intention than that. Having asserted its determination not to permit the alcohol question or anything else to undermine the personal relationship of the physician to his patient, and insisting that the judgment of the layman be not substituted for that of the physician, the committee would have the Board of Trustees inaugurate, through the Council on Pharmacy and Chemistry, a study of the therapeutic effect of the use of alcohol, for the benefit of the medical profession, that eventually the true place of this drug in the practice of medicine might be agreed upon. In the meantime, the committee would call upon each of the constituent associations and component societies to take such action as might curtail to the extent possible the abuse of the privilege of prescribing the drug, under whatever regulations, and it was so recommended in the report. This attitude of the committee could not be brought out, for the reason that debate was shut off by the motion to table.

We would ask, in all fairness, could there be any objection to Dr. Vecki's resolution? Certain it is that the medical profession is being woefully imposed upon and abused in this matter, and it does seem that some way could be found to avoid prostituting a noble profession, regardless of the necessity of alcohol as a drug in the practice of medicine. After all, whether or not it is advisable to use alcohol in any given case, is not the question. The principle involved is that if medicine is to progress it must not be hindered by arbitrary restrictions. If the government can say whether, how much, and under what conditions alcohol may be prescribed, it can likewise rule in the matter of opiates, which it has done to a considerable extent, and in the matter of vaccines, glandular extracts, and many other remedies about which there may be a diversity of opinion and concerning which there is much prejudice. Admitting this principle, what a beautiful opportunity the antivaccinationists would have!

Our solution of this problem is, and we so recommend, that doctors be allowed to prescribe alcohol without restriction of any sort, the restrictions being thrown around the filling of the prescriptions instead. It would be more simple than it appears on the face of it, to provide a dispensary system, with all of the necessary safeguards. For instance, it might well be required than an individual presenting a prescription for whiskey be first identified and then a card giving the facts noted in the prescription, prepared and filed. When it appears, from the card of an individual, that there is apparently an abuse of the privilege being extended, a committee of physicians, permanently appointed for that purpose, could investigate the case and determine whether or not further service might be had by the individual. The findings of such a board could be final, or appeal could be made to a higher body, always made up of physicians, who might be expected to know the technical problems involved. Very naturally there would be abuse, but any system would likely be so abused, and it would be to the advantage of all concerned to protect the medical profession from both criticism

and actual prostitution. The cartoon we are presenting herewith, used with the kind permission of *The Dallas Morning News*, while funny and intended to amuse, has a serious aspect and carries a lesson doubtless not intended by its talented author.

After all, what boots it if an individual here and there secures clandestinely or without justification, a drink of whiskey, wine or beer? The problem we started out to solve in this whole nightmare of prohibition was

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to prevent drunkenness and all that goes with it. We have passed beyond this practical idea and are entering the class of the witch-burners.

Recent high court decisions, one of them the result of the efforts of certain self-sacrificing and devoted physicians in New York, known, we believe, as the "Association for the Protection of Constitutional Rights in New York," are to the effect that it is unconstitutional to attempt to say by law how much alcohol a physician may prescribe for a given patient, or the number of prescriptions that he may issue within stated periods. One of the decisions said in so many words, that "the physician with unrestricted power to begin a course of treatment must have like power to finish it. Otherwise there may be dangers greater than involved by denial of any power, for the latter might be supplied by substitutes. These statutory provisions to restrain the judgment of physicians in the exercise of power to prescribe alcohol, depriving physicians and patients of liberty without due process of law, are unconstitutional."

Unquestionably the whole matter will soon come before the Supreme Court of the United States, when we will know beyond any doubt just how much the layman may interfere with the physician in the practice of medicine. In the meantime, we join our unknown friend in the lay press who said:

> "From all the law-restricted throng the cry goes up: 'O Lord, how long?' How long must we thus law-bound be, who once were proud that we were free? Can't those who make these laws called 'blue' be gotten something else to do?"

Praise to Whom Praise Is Due.—The House of Delegates at San Francisco paid warm tribute to our lamented friend and former Secretary, Dr. Craig, who died last September. The President, the President-Elect, the Speaker of the House of Delegates, the Secretary and the Board of Trustees, all spoke feelingly of this our faithful servant who is gone. The House was adjourned at one time in his honor. It would be difficult to suitably express our feelings, but simple resolutions in his memory were made of record through a special committee appointed for the purpose.

Rather unexpectedly came several warm tributes to the Board of Trustees, to which we are glad to point with pride. The Speaker warmly and earnestly repudiated the "charges and allegations that apparently arise from the disgruntled, who as yet have revealed not a single trait or contributed a single suggestion for the betterment of the Association." President de Schweinitz, following a year of observation, said, "The earnestness and fidelity with which the members of this board and the Editor-Manager perform their duties; the insistent, untiring attention which they devote to the work which falls to their share in solving and considering the numerous problems called to their attention, highly deserves our gratitude and our admiration. They work for the work's sake; they strive for the common good of our Association, the largest of its type in the world today, and, we fondly believe, the best." He concluded his criticism with a quotation from Dryden that "they wholly mistake the nature of criticism who think its business is principally to find fault." President-Elect Wilbur said:

> "I have gone to the meetings of the Board of Trustees. They are a splendid group of men. It has been my fortune, and misfortune sometimes, to deal with a number of boards of trustees of all sorts, and I can say quite frankly that the Board of Trustees of the American Medical Association is just as good as any board of trustees in the country, but it is largely a custodial body. It does the custodial side of its work admirably. * * * Some group of men must be thinking of what is going to happen to medicine in this country five, fifteen or twenty years from now. What are the conditions under which medical students will be practicing fifteen years from now, and

what is the Association to lay down as a ground work so that the profession can go on with increasing opportunities, increasing responsibility and increasing service? It is a great task. It requires a great deal of thought, but it can be done."

The much maligned and beloved General Manager, Dr. Simmons, received equally commendatory remarks from those who have been observing the work of the central office. The following well-deserved tribute was unanimously paid him by the House of Delegates:

"*Whereas*, This year completes the silver service of twenty-five years of constructive endeavor on the part of Dr. George H. Simmons as Editor of the publication which he has made into the foremost medical journal of the world.

"*Whereas*, He was Secretary of the Association during the active period of constructive reorganization, and his plans are now an integral part of this Association; and whereas, he has helped to make American medicine, as represented by the American Medical Association, honored and respected throughout the world; and whereas from his first connection with *The Journal* as Editor to the present time he has conducted a campaign against nostrums and quackery with a result that is encouraging to us all; and whereas, in the conflict with the business combinations that exploit the sick, the Council on Pharmacy and Chemistry was conceived by him, which in itself is a monument to his constructive genius. Therefore, be it

"*Resolved*, That the House of Delegates, as the representative of the American Medical Association, tenders to Dr. George H. Simmons its appreciation of the value of his constructive services to the American Medical Association and his devotion to its interests during the quarter of a century, which includes the year of 1923."

Mr. William Whitford, the official stenographer of the Association, who has reported 34 consecutive meetings, ever since its reorganization, in fact, was extended a rising vote of appreciation, and Dr. Wilbur T. Sarles of Wisconsin, who was a member of the first House of Delegates and who had served five terms as Trustee, retiring at this time, was given an ovation.

These occurrences have had a pleasing and encouraging effect on those of us who have for a time been striving with the intricate problems of organized medicine and the practice of medicine, and who have occasionally been discouraged through occurrences which seem to indicate that democracies are indeed ungrateful and our fellows unappreciative of sacrifices made in their behalf.

Limitation of Freshman Classes in Medicine.—It seems that one of the pressing problems of medical colleges under existing circumstances, is to determine the number of students which may be properly taught. The University of Pennsylvania, with its magnificent clinical facilities and equipment for teaching, has found it necessary to limit its Freshman class to 100, and the Junior and senior classes to 120 each. Yale last year accepted 40 Freshmen, 55 Sophomores and 50 Juniors, and graduated 33 Seniors. Harvard accepted 125 Freshmen, Washington University, at St. Louis, accepted 75, and Leland Stanford, California, 51, the latter graduating 22 Seniors. It is understood that the institutions named turned away applicants for matriculation. It will be accepted as a fact, we presume, that the decision to so limit the student body arises from a desire to render the best service, and is from no selfish motive. The extension of medical science and the art of its practice into such divers fields, and the perfection of the technique of its practice, means that closer attention must be given to teaching the individual, which requires the personal touch that gets out of hand if the group is increased too much.

In the realization of these limitations, the School of Medicine of the University of Texas, has decided to limit its Freshman class in medicine to 60. The clinical facilities at Galveston for teaching purposes are limited. There are 300 ward beds and an out-patient department. Last year there were 3,681 ward patients and 24,502 out-patients. Experience has demonstrated that this is sufficient and satisfactory for a class of from 40 to 50 in the Junior year, and the same number in the Senior year. That means that not more than 60 should be accepted for the Freshman class. The Medical Faculty feels that the only way it can do justice to those applying for medical education is to so limit the entering class that all may have an opportunity to receive the instruction to which they are entitled, without overcrowding. This can be done only on a scholarship basis, in a state institution. The Board of Regents have approved the decision of the Faculty and the limit applies to the class entering this summer. On July 16, the first selection was made, 66 applicants being accepted tentatively. This number will be increased to 100, at which time 60 will be chosen strictly on a scholarship basis. The remaining 40 will be advised to seek entrance elsewhere, as they will all have qualified to enter a first class medical college.

The necessity of limiting the student body in first class medical colleges is to be regretted, of course, but for the present there seems to be no way around. The future, as always has been the case, will bring the answer, which will be either an increase in the number of first class medical colleges or an increase in the facilities of those so situated that expansion is necessary. We are inclined to believe that the former alternative will be chosen, in view of the large advantages to accrue to a community through the location of a teaching institution therein.

ORIGINAL ARTICLES

WEIGHT DURING PREGNANCY.*

BY

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It is the general opinion that the pregnant women should gain in weight. Authorities state that during the last three months the gain is noticeable, especially so in the last six weeks, when it is from one and one-half to three and one-half or five pounds weekly. Generally speaking, and quoting textbooks, the gain may be from one to forty pounds. J. Morris Clemons, M. D., in his oration, "The Nutrition of the Fetus," says that "the mother's gradual but consistent gain in weight amounts finally to about thirty pounds; exceptionally, it is as little as ten to fifteen pounds, and at the other extreme as much as forty to fifty pounds; with individuals inclined to be stout the increase is greater; and it is relatively greater in later pregnancies than in the first."

The attributable weight is accounted for by the weight of the fetus, the placenta, the amniotic fluid, the uterus and the breasts. This totals from ten to fifteen pounds. But how shall we account for the additional fifteen to twenty-five pounds? The answer is, overeating and lack of exercise. To the average patient, the food and metabolism during the nonpregnant period is competent to answer all calls of the fetus and appendages during gestation. The amount of food taken above the demands of body tissues and the fetal development, is stored up in the tissue generally known as fat. We know that during the first two or three months the patient's appetite is not equal to that of the last months. During the first months, eating is a problem, and the desire is not present; but in the last months, eating, as a rule, is a joy, and power is required to control the appetite. Constantly during the last months there is a mental duel between the will and the appetite. Should the appetite win and not be controlled, the results are increase in weight, rise of blood pressure, injury to the liver and kidneys and pathology of organs which formerly have been functioning physiologically. Given a balanced diet, not overfeeding or underfeeding, but a diet sufficient in quality and quantity, and the mother will care for the extra duties imposed by pregnancy without any ill results. Overeating by the normal man or woman is hazardous, and this is much more so in the pregnant woman.

Early during pregnancy the patient should consult her obstetrician, who should record her weight, height and blood pressure, together with other information necessary for hygienic care, at which time she should be taught the significance and importance of this procedure. The knowledge of her own gain, blood pressure and diet, will secure her co-operation toward preventing complications. Indeed, it is surprising how interested they become concerning their weight, and how they refrain from such quantities of food as will increase it.

Believing that too little attention is given to the prophylactic measures in obstetrics, in proportion to the time spent in discussing the complicated cases, I am encouraged to report the incidence of weight in one hundred consecutive cases. These records convince me that the gain in weight during pregnancy should be approximately twelve pounds and as it increases above this reproductive standard, there is a tendency to complications. These records are taken from my private files. Some patients were purposely directed to increase their weight, while the large majority were directed to limit their diet, thus preventing an excessive gain. These patients are always interested in their weight, and especially so if they have disregarded their instructions. I have tabulated my data, as follows:

Type	Para	Age	Height	Standard Weight	Date and Weight First Visit	Weight Before Delivery	Gain or Loss During Gestation	Weight Over Standard	Date of Delivery	Sex Weight
					1–25	9–1				9-17
Spare	0	25	5-4	127	123	131½	+ 8½	4½		M. 7-11
					7–10	1–23				2-5
Spare	0	23	5-7	135	107	141	+34	6		F. 8-4
					9–1	1–19				1-24
Spare	0	30	5-5	135	112	149½	+37½	14½		F. 6-6
					2–7	7–25				7-12
Stout	0	34	5-4	130	158	184	+26	54		M. 9-15
					9–7	2–20				3-2
Spare	2	27	5-7	139	134	144	+10	5		F. 9-8
					8–1	11–8				12-16
Stout	1	29	5-2½	122	135	148	+13	26		M. 9-7
					5–26	7–23				8-31
Stout	2	29	5-1½	119	117	124	+ 7	5		F. 7
					12–29	7–25				8-1
Spare	0	23	5-2½	120	107	122	+15	2		M. 8-10
					9–19	10–2				10-10
Compact	1	29	5-2	120	103	145	+42	25		F. 8-2
					11–25	3–31				4-11
Spare	0	29	5-7	139	124	147½	+23½	8½		F. 6-3
					8–2	2–20				3-22
Stout	3	33	5-7½	145	177	179	+ 2	34		M. 9-7
					7–5	10–31				11-9
Stout	0	21	5-1½	117	119	134	+15	17		M. 8-8
					2–1	7–7				8-13
Spare	0	37	5-8	151	131	140	+ 9	11		M. 1-10
					12–1	6–14				7-19
Spare	1	25	5-5	131	117	149	+32	18		M. 8-5
					10–10	3–8				4-25
Spare	0	27	5-8	143	131	158	+27	15		M. 9
					10–1	3–20				4-10
Spare	0	26	5-2	120	101	133	+32	13		M. 6-13
					6–11	1–28				2-25
Compact	0	30	5-8	147	154	177	+23	30		M. 9-10
					10–19	2–1				2-2
Small	0	24	5-2	118	96	110½	+14½	—7½		F. 8-4
					1–28	5–19				6-6
Spare	1	30	5-7	143	162	157	— 5	14		M. 8-4
					3–30	8–11				8-21
Compact	1	24	5-4	125	119	126	+ 7	1		M. 7-8
					3–28	9–28				10-12
Spare	1	31	5-4	130	124	139	+15	9		F. 8-2
					11–8	12–6				12-13
Stout	3	32	5-4	130	142	140	— 2	10		F. 6-6½
					3–7	8–25				9-9

*Read before the Section on Gynecology and Obstetrics, State Medical Association of Texas, Fort Worth, May 10, 1923.

Type	Para	Age	Height	Standard Weight	Date and Weight First Visit	Weight Before Delivery	Gain or Loss During Gestation	Weight Over Standard	Date of Delivery	Sex	Weight
Stout	4	35	5-4	134	138 2-10	148 6-22	+10	14	F. 7-4	F.	7-4
Stout	1	37	5-3	131	137 1-13	148½ 5-30	+11½	17½	F. 6-13	F.	6-6
Spare	0	28	5-3	124	100 5-26	114½ 10-25	+14½	—9½	F. 11-12	F.	6-13
Stout	0	22	5-4½	127	146 6-10	162 9-29	+16	35	F. 10-12	F.	7-14
Stout	1	31	5-2	123	123 3-1	127 4-17	+ 4	4	F. 4-21	F.	7-8
Spare	1	26	5-5	131	105 6-14	137 11-26	+32	6	M. 12-7	M.	6-8
Stout	0	23	5-2½	119	139 6-18	142 11-21	+ 3	23	M. 12-2	M.	6-14
Spare	0	27	5-3½	126	111 10-5	125 4-7	+14	—1	M. 5-15	M.	8-10
Spare	0	21	5-3½	124	105 5-16	135 9-27	+30	11	M. 10-17	M.	6-15½
Spare	1	31	5-5	135	110 8-10	127 2-17	+17	—8	F. 2-26	F.	7-14½
Spare	0	25	5-2	120	106 5-3	131 6-24	+25	11	M. 6-26	M.	8-3½
Compact	0	23	5-4½	127	161 8-11	170 3-17	+ 9	43	M. 4-5	M.	7-10
Compact	0	32	5-7½	146	163½ 10-30	158 11-8	— 5½	12	M. 11-10	M.	9-5½
Stout	0	27	5-5	131	135 1-30	133 6-30	— 2	2	M. 7-4	M.	8-6
Compact	0	28	5-4½	129	166 3-9	166 9-13	0	37	F. 10-1	F.	7
Compact	0	22	5-5	128	127 10-17	150 1-21	+32	33	F. 2-1	F.	8-3
Spare	0	20	5-1½	117	110 7-25	121 12-5	+11	4	F. 12-6	F.	7
Small	0	26	5-3	124	116 11-30	138 5-22	+ 9	14	M. 6-12	M.	7-8
Spare	1	27	5-6	135	130 6-16	154 9-26	+24	19	F. 9-27	F.	6-15
Spare	0	28	5-8½	145	120 9-10	137 12-19	+17	— 8	M. 12-25	M.	8-1
Compact	2	25	5-7	139	134 8-18	160 10-20	+26	21	M. 10-23	M.	8-2
Spare	2	27	5-3½	126	120 2-28	124 3-27	+ 4	— 2	F. 4-4	F.	7-12
Stout	1	24	5-5	128	159 6-11	162 12-2	+ 3	34	M. 12-10	M.	8
Stout	3	28	5-8	143	206 6-30	200 12-14	— 6	57	F. 12-22	F.	7-9
Large	0	20	5-6	132	154 5-27	164 12-12	+10	32	F. 12-30	F.	8-4
Compact	2	27	5-2	120	127 6-14	149 11-27	+22	29	M. 12-8	M.	7-14
Spare	3	31	5-8½	144	149 4-1	158 11-10	+ 9	14	F. 11-14	F.	7-4
Compact	0	21	5-1½	117	115 5-13	121 9-7	+ 6	4	F. 9-18	F.	6-3
Large	0	26	5-6½	137	160 11-7	169 5-16	+ 9	32	M. 5-23	M.	8-6
Spare	0	21	5-4	125	121 10-24	145 4-11	+23	20	F. 4-18	F.	7-7
Large	0	42	5-9	159	149 1-9	170 7-17	+21	11	F. 7-19	F.	5-12
Spare	1	25	5-4	127	109 6-28	132 2-15	+23	5	M. 2-28	M.	8-14
Stout	3	27	5-4	127	189 5-13	167 12-7	—12	40	M. 12-18	M.	8-5
Stout	0	23	5-3½	124	146 11-28	149 2-2	+ 3	25	M. 2-23	M.	7-5
Stout	2	25	5-7	139	190 11-23	198 5-5	+ 8	59	{F. {F. 5-27	{F. {F.	5-8 5-7
Short	0	18	5-1	115	105 12-15	127 3-1	+22	12	M. 3-3	M.	7-4
Compact	0	32	5-5	135	135 4-4	154 9-23	+19	19	M. 9-24	M.	7-8
Spare	1	20	5-5	128	115 12-1	150 4-4	+35	22	M. 4-20	M.	7-11
Spare	0	25	5-5	131	115 9-6	138 1-15	+23	7	M. 2-15	M.	7-10
Spare	0	22	5-4	125	95 5-5	120 8-25	+15	— 5	M. 8-30	M.	7-12
Stout	3	28	5-5	131	210 5-5	193 9-22	—17	62	M. 10-26	M.	9
Spare	0	19	5-6½	130	145 12-20	152 7-7	+ 7	22	F. 7-9	F.	8
Stout	1	27	5-5	131	168 7-27	182 11-11	+14	51	F. 12-20	F.	9
Stout	2	26	5-5½	133	150 3-15	162 10-30	+12	29	M. 11-1	M.	10
Stout	0	26	5-3½	126	131 8-1	149 12-19	+18	23	F. 12-31	F.	7-4
Stout	2	35	5-5	139	181 1-3	182 8-3	+ 1	43	F. 8-15	F.	7-14
Stout	0	21	5-5	128	144 7-5	154 12-20	+10	26	M. 12-30	M.	7-6
Spare	0	19	5-4½	124	107½ 10-21	129½ 12-11	+22	5½	F. 1-18	F.	7-8
Spare	1	26	5-3½	126	116 10-14	123 3-26	+ 7	— 3	F. 4-9	F.	6-4
Compact	0	24	5-1	118	127 10-30	137 4-8	+10	19	M. 4-9	M.	7-6
Spare	0	20	5-6	132	118 11-21	138 4-19	+20	6	M. 5-12	M.	10-12
Spare	1	36	5-5	139	140 6-1	154½ 11-23	+14½	16½	F. 11-28	F.	7-8
Compact	0	24	5-5½	130	129 11-9	140 11-22	+11	10	F. 11-23	F.	4-10
Spare	1	22	5-3	122	112 8-30	122 2-2	+10	0	M. 2-7	M.	6-2
Spare	1	30	5-5	135	117 5-19	141½ 5-28	+24½	6½	F. 5-30	F.	9-5
Short	1	26	5-4½	129	145 9-25	150 2-25	+ 5	21	M. 3-8	M.	7-4
Stout	1	32	5-7½	145	199 7-10	195 3-5	— 4	50	F. 3-12	F.	8-8
Spare	0	24	5-6	132	110 2-8	129 7-1	+19	— 3	F. 7-13	F.	6-9
Stout	0	20	5-4	125	132 10-21	145 8-26	+13	20	F. 12-5	F.	7-9
Stout	1	24	5-5	128	153 8-26	145 12-26	— 2	23	M. 12-31	M.	8
Stout	0	27	5-8½	143	145 2-7	150 9-1	+ 5	7	F. 9-11	F.	7-8
Frail	1	26	5-6½	137	122 3-5	140 8-28	+18	3	M. 9-8	M.	7-6
Compact	0	21	5-5	128	129 9-29	143 3-5	+14	15	F. 3-13	F.	7-12
Compact	0	21	5½	114	107 8-1	121 3-4	+14	7	M. 3-10	M.	7
Spare	0	23	5-5	128	113 4-1	130 8-18	+17	2	M. 10-28	M.	8-5
Stout	1	23	5-3	122	113 7-25	126 9-6	+13	4	F. 9-26	F.	7-3
Stout	0	25	5-5	131	143 6-17	148 10-26	+ 5	17	M. 11-28	M.	7-11
Spare	0	26	5-5	131	115 7-26	138 11-29	+23	7	M. 1-11	M.	7-11
Stout	0	19	5-4½	124	145 8-8	162 9-5	+17	38	F. 9-7	F.	9
Compact	1	27	5-7	139	143 7-15	148 11-6	+ 5	9	M. 11-8	M.	8-11
Compact	1	20	5-6	132	126 9-5	148 11-9	+22	16	M. 12-10	M.	8-2½
Compact	0	24	5-3	122	127 7-25	144 8-23	+17	22	M. 9-6	M.	8-8
Stout	0	25	5-6	135	160 7-12	179 1-5	+19	34	M. 1-25	M.	8-14
Spare	0	23	5-5½	133	115 5-20	148 7-7	+33	15	M. 7-12	M.	7
Spare	0	25	5-5	131	127 5-17	132 11-27	+ 5	1	M. 12-25	M.	7-2
Spare	2	29	5-7½	141	123 11-25	150 12-1	+27	9	M. 12-20	M.	5-15
Large	0	24	5-6	132	150 8-17	163 11-5	+13	31	F. 11-10	F.	7-8
Spare	1	29	5-5½	133	128 12-23	131 4-19	+ 3	— 2	F. 5-6	F.	6-11
Stout	1	29	5-6	135	160 6-21	181 8-1	+21	46	F. 8-5	F.	6-11
Compact	1	27	5-8½	145	149 2-28	151 9-26	+ 2	6	M. 10-13	M.	8-5
Stout	1	27	5-2	120	139 5-1	155 10-30	+16	35	M. 11-15	M.	8-5
Spare	0	21	5-8½	142	121	150	+29	8	F.	F.	7-6

My observations relative to weight during pregnancy are as follows:

1. For those patients whose weight at the beginning of gestation is near standard, gain for reproduction should not be more than twelve pounds.
2. Excessive diet usually increases weight.
3. As the weight increases, the appetite increases.
4. Standard weight should be our guide. Those below the standard should have their weight increased; those above should be limited.

5. Patients whose weight is above standard and who continue to increase over the reproductive weight of twelve pounds, manifest pre-eclamptic symptoms, such as headache, edema, increased blood pressure, etc.

6. Increased weight above reproductive gain serves as a complication in cases of heart lesion, hypertension and renal disturbance.

7. Increased weight above reproductive gain aggravates epilepsy and psychosis.

8. Tuberculous patients under standard weight should be brought to or above the reproductive weight, but not greatly above. These patients require very careful attention.

9. Breast feeding is more successful in those patients whose gain is not above twelve to fifteen pounds.

10. Apparently, the weight of the baby is not so great in patients whose gain in weight is limited.

11. The control of weight in pregnancy shortens the duration of labor and is an excellent treatment for inertia uteri.

12. Certain endocrine disturbances during pregnancy increase the appetite. If not controlled this will result in excessive gain in weight.

13. An excessive gain in weight during pregnancy is a potential hazard leading to such complications as eclampsia, lowered resistance against infection, apoplexy, injury to the foetus at birth, and many complications which are thought to indicate cesarean section.

14. A personal interview each week, observing weight, blood pressure, diet and other prenatal prophylactic measures, is necessary to lower morbidity and mortality in obstetrics.

ABSTRACT OF DISCUSSION.

Dr. Robert A. Johnston, of Houston: Dr. Hannah has given us something to think about in prenatal care. As you recall, it was not due to the efforts of the medical profession that the value of prenatal work first came into vogue. Mrs. Putnam of Boston, was the first to realize the value of supervision during the pregnant state, and established a clinic in Boston, so that expectant mothers could obtain advice. The routine examination of the urine was for a long time our only index of the patient's condition. In addition to this, we later found that blood pressure determinations gave us valuable information. Dr. Hannah has shown us the value of determining the increase in weight during pregnancy, which is without a doubt a most valuable index of the patient's condition.

Dr. Davis, of Milwaukee, has recently published a preliminary report in regard to weight in pregnancy and his findings agree with those of Dr. Hannah. It has been generally conceded that the average gain in weight during the last four months ranges between 25 and 35 pounds. According to Dr. Hannah and Dr. Davis, this is too high; the average gain should be from 12 to 20 pounds. Dr. Davis contends that a rapid increase in weight is often the forerunner of pre-eclamptic symptoms, albuminuria, hypertension, etc., and to my mind, such a disturbance of metabolism should be guarded against by restricting the patient's diet. Since learning of Dr. Hannah's work, I have been observing the weight of my patients very carefully. I recall two instances in which rapid gain in weight preceded hypertension and albuminuria. There is a definite relationship between a rapid gain in weight during pregnancy and a disturbed metabolism. We are indebted to Dr. Hannah for the report of his cases, in which he so conclusively shows the value of thorough prenatal care.

Dr. L. Mackechney, of Wichita Falls: More than a year ago I began requiring my pregnant patients to come to the office every two weeks, where I would weigh them, taking their blood pressure, and make urinalyses. Of course, at the first visit, measurement of the pelvis is made. The size of the pelvis, and what size baby the woman can have with safety, is estimated. I don't think anyone can tell the exact dimensions of a child's head prior to its birth, but we can be fairly accurate. It has been my observation that by holding the weight of the patient down we can hold the weight of the baby down, and as Dr. Hannah stated in his most excellent paper, it is surprising how quickly these patients become interested in their weight. As a rule, as soon as they come into the office they go to the scales, and that is the only way you can convince these patients that they are overeating.

The only serious trouble that I have had in the last twelve months, was in a patient who gained some forty or fifty pounds; a young woman whose husband, fortunately or unfortunately, had a lot of money. She had a Cadillac car, and I am quite sure that she ate forty or fifty pounds of candy during her pregnancy, and she wouldn't take any exercise. I told her all along that she would have a hard time, and she did.

SCOPOLAMIN-MORPHIN ANESTHESIA IN OBSTETRICS: ITS ADVANTAGES AND LIMITATIONS.*

BY

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Morphin-scopolamin in various combinations as a method of anesthesia, has at least two distinct branches, general surgery and obstetrics. The difference in the dosage, in administration and in effect, is so radical that there should be a difference in name. I believe the most serious handicap this anesthetic suffers today in obstetrics is the lack of a distinctive, descriptive appellation. The title, "Morphin-Scopolamin Anesthesia," used by physicians, confuses the method used in obstetrics with the method used in general surgery, a very different matter. The title used by the laity, "Twilight Sleep," although confined to obstetrics, is still worse, because it is in no sense correctly descriptive; and moreover it has been so abused, both by the laity and the profession, that the very name conjures up visions of terror totally at variance with the facts as we know them.

I have no satisfactory name to offer, but

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would call attention to the fact that for the purposes of this discussion I have used the title "Scopolamin-Morphin," with the emphasis very emphatically on the scopolamin.

The United States Pharmacopoea states that scopolamin and hyoscin are chemically identical, the inference being that they are also clinically identical. I do not wish to take up valuable time discussing this matter, but would like to state that such a drug firm as Sharp and Dohme has abandoned this position. For ourselves, we feel that we have had good reason to believe that the physiological effects of the two drugs are different, and in our obstetrical work we use only scopolamin derived from the scopola plant.

To those not familiar with the drug, I would address another caution. Scopolamin is unstable, and the best of preparations deteriorate with time. Therefore, one should buy only from a thoroughly reliable firm, and buy not more than a six months' supply at one time. I would also call attention to the fact that for the sake of accuracy in dosage, one should buy the drug in tablet form, and not in solution. For dissolving the tablets, only distilled water should be used. The drug is rendered inert by boiling, and also by alcohol; therefore, care must be exercised in loading the syringe, and in administration.

In regard to the physiological effects of scopolamin, our conclusions are that it is a true hypnotic. The sleep produced, however, is not profound. By this I mean that there is no tendency to coma. Scopolamin is a true analgesic. The immediate objective symptoms of pain are much less marked, and the ordinary after-effects of pain are almost entirely abolished. This is a point that I believe is not duly recognized. Under ether, the conscious mind is not aware of pain, but its effects are registered by the tissues of the body, and are afterwards manifested as shock and exhaustion. Under scopolamin, the pain impulses are not transmitted to the nerve centers to any marked degree, and the absence of shock is notable. Scopolamin is an amnesic. The effect of the drug on memory is so well know that it has, to my mind, overshadowed aspects of greater importance. Forgetfulness is marked under full dosage. Not only are the pains of childbirth, for example, totally erased from the patient's memory, no matter what her reactions at the time may have been, but there does not remain any sense of the passage of time. The patient wakes and takes up the thread of memory where she left off when she went to sleep. Any number of hours are utterly dropped from her consciousness—"sunk without trace." And this is true even of those skeptical patients who have deliberately braced themselves to remember all they can.

Scopolamin increases the frequency of respiration and also of the heart beat. In this respect it is the true antithesis, the antidote if you will, of morphine. The quickened respiration is somewhat shallow in character, but so far as our experience goes, even a very large dose does not produce respiratory paralysis, although I am aware that this is contradicted by certain recognized authorities in therapeutics. We have given in a single dose five times the ordinary amount without any ill effects. (To dogs, we have given a grain, and so far have not produced death.) Our experience tends to prove that in any reasonable dose scopolamin is not a dangerous drug.

Scopolamin is a vasomotor dilator. It also dilates the pupil of the eye. I might remark that this dilatation is about the only effect of scopolamin that is lasting in character. It is often more noticeable on the second day than the first. Flushing of the face is very noticeable and quite characteristic. It promotes the flow of urine. This is true, I believe, in all cases, though the degree is not constant.

The mental or nervous reaction to the drug is extremely variable, and cannot be foretold in any given case. Some patients are excitable and difficult to manage; others sleep quietly. It is this variation in mental effect that is most disconcerting to the novice in administering the drug. Practically all patients are susceptible to light stimuli. Contrary to the generally accepted idea, noise is not noticed if it be of a general character. But the patient is likely to be disturbed by special noises, such as, for example, the sound of a familiar voice.

All of these characteristics of the drug have to be considered in the management of cases under scopolamin anesthesia.

The technic used at the Wheatland Hospital has been developed over a period of fourteen years. For the last two or three years practically no change has been found advisable. In describing the technic, it will be necessary to begin with the delivery room, as we feel that certain details are important. The walls and ceiling of our delivery room are painted a dull, dark green over the entire surface. The windows have dark green shades, arranged to cut out every crack of daylight. When it is necessary to raise the shades or windows, a heavy, dark green screen protects the dilated eyes of the patient from the light. All artificial lights

are below the level of the patient's eyes. Delivery is practically always done under artificial light, which is carefully screened from the patient's face. We have found light to be an extremely disturbing influence.

The delivery room is not in any way isolated from ordinary noise. We do not allow relatives or friends to come to the delivery room. A familiar presence, no matter how quietly manifested, will apparently drag consciousness to the surface of the mind far more effectively than the most acute pain. We have a specially built delivery bed, with a table at the foot, and strong standards for holding the patient in the lithotomy position, for delivery. This bed is screened with heavy canvas, easily removed at any time, and always open at the foot, except for bars arranged like an "X." No effort at restraint, other than this canvas, is used for the most restless patient, until within a short time of delivery. The open end of the canvas screen permits constant observation of the patient. She is never left alone, but she does not see the delivery room attendants and is undisturbed, except to receive the hypodermics, and to allow the attendant to ascertain foetal position and condition.

When we are ready for delivery, the patient is brought down on the table at the foot of the bed, and is fastened firmly in position, so that she cannot move at all. We have tried all sorts of braces and harness for this purpose, but now rely on heavy cloth straps. At the last moment we usually turn the patient on her side for delivery, but this requires at least three assistants.

The first dose of the drug is given in the patient's room. Our patients are usually waiting in the hospital, and they have instructions to call the nurse upon suspicion of pain. An enema is promptly given, followed by a shower bath. The first hypodermic is not given until the pains are regularly established, so that it is reasonably certain that it is not a false alarm. Anesthesia has sometimes been mistakenly started and had to be stopped. No harm was done, except the disappointment to the patient, which may be very keen.

The first dose, which is most important, is individually ordered by the obstetrician. The essential point to be considered is how much morphine shall be given with this dose, as this is the only morphine the patient is to receive until after delivery. If the patient is likely to be in labor more than three hours, 1/8 grain morphine is ordered, with 1/100 grain of scopolamin. This is the maximum initial dose of morphine. If the patient is a multipara, with a history of short labors and with every indication of a quick delivery, the morphine is cut to 1/12 grain, or even to 1/16 grain. I have tried eliminating the morphine altogether in such patients, but the small dose of morphine seems to be needed to make the scopolamin take effect quickly, and also to lessen the unpleasant effect of scopolamin before memory is obliterated. I cannot too forcefully emphasize the danger of morphine in obstetrics. Even though you may decide that your preliminary dose of morphine has been too small, do not make the mistake of repeating it. If you do, you are apt to find that you have made a second mistake far more serious than the first one.

In quick-labor cases, we may give 1/50 grain of scopolamin for the initial dose, if the time bids fair to be very short; but ordinarily we shorten the time between doses rather than increase the size of the dose. If pains are strong, and the intervals short, the second dose of 1/100 grain of scopolamin is given in half an hour from the first, and a third dose, 1/100 grain of scopolamin in another half hour, making three doses in the first sixty minutes. Within half an hour after the third dose, pain is no longer registered by the conscious mind. In susceptible patients, a single dose is often sufficient to obtain this effect, but in the most stubborn the result is assured if three doses are administered in two hours time. We do not make memory tests, nor rely upon anything that the patient says during labor. If delivery cannot be retarded sufficiently to permit of the three doses at half-hour intervals, we do not hesitate to administer chloroform or ether, as the case requires. The patient is usually too restless to permit of the satisfactory administration of nitrous-oxide.

If labor is not of the quick type, but the patient is a multipara, the first three doses are given one half hour, then one hour apart, instead of all at half-hour intervals. These short intervals are between the first three doses only. After that time the interval is always two hours. It must not be forgotten that, compared with morphine, the action of scopolamin is transient. This is the reason for the regular two hour interval between doses. If the interval is longer, the patient will have "islands" of memory and of sensation of pain.

In a patient with a history of long labor, the first doses are given one hour apart. Later doses consist of 1/100 of a grain of scopolamin every two hours. In an exceptionally slow, long drawn out case, after the first three doses to establish anesthesia, we sometimes cut the dose to 1/200

grain every two hours until the head of the foetus is well down. There are two types of cases in which the scopolamin is thus cut to 1/200 grain. One is the type that is ideal; that is, the patient who becomes drowsy with the first dose and never thereafter gives any indication at all that anything unusual is taking place. The other type is the long, drawn out case that is plainly going to drag along for from twenty-four to seventy-two hours. In any instance, if delivery is going to come near the end of a two-hour period, the dose is given without waiting for the time to be up.

I do not need to discuss here the conduct of labor. The technic is not different from the accepted methods. Forceps and other operative measures are used as indicated, the only difference being that only the welfare of the child need be considered, as the mother's suffering does not have to be taken into account. We simply do not have to think about shortening labor for the sake of the mother.

Immediately after the delivery of the baby, while the cord is being tied, the mother is given ¼ grain of plain morphine, without any scopolamin or atropin. This is important, as the morphine does away with the restlessness and hallucination from which some of these patients suffer as they emerge from the sleep. An ampoule of cornutol is also given as routine, before the patient leaves the delivery room, but of course this has nothing to do with the anesthetic. If there is any laceration, an immediate repair is done. No additional anesthetic is necessary.

The patient is then put to bed in her own darkened room, and wakes in from two to ten hours, without any recollection of what has taken place. During this period no visitors are allowed. It is astonishing how little these patients complain of soreness, even in difficult labor. They are not exhausted; they are not even tired. With proper obstetrical nursing the overwhelming majority enjoy a normal puerperium, and the patient's dismissal card gives a history "without incident."

To go back to the delivery room, the baby's cord is tied with the least possible loss of time, not waiting for pulsations to cease. The baby is carefully watched after the cord is tied. A certain percentage of babies require artificial respiration and other resuscitative measures. I think the percentage of such babies is about the same as occurs in the ordinary delivery room; not more, not less. We have not yet found it necessary to resort to the injection of adrenalin into the heart, as the newspapers tell us has been necessary in some places! We almost hesitate to tell the simple truth, which is that we have not lost, in the delivery room, under morphine-scopolamin, a single baby over seven months gestation, with the exception of one monstrosity.

What, then, are the limitations of this anesthetics? It is not limited by reason of race, so far as I know, nor by age, nor by previous condition. Speaking of race, I have not tried this anesthetic on negroes. I know of no reason why they should react differently, except that women of excitable race heritage are sometimes difficult to handle. Age makes no difference. Among our patients is a woman of 23, who now has five healthy children, all born under this anesthetic, the oldest when the mother was just past fifteen. On the other hand, we have had an unusually high percentage of mothers over forty, all delivered without particular difficulty. As to previous condition, we have had heart lesions, kidney complications, lung affections, pelvic malformations—everything, in short, that other obstetricians have to meet. We have not yet seen a contra-indication for this anesthetic. If there is no condition of the mother or child that need be considered a bar to this anesthetic in labor, what is its limitation? In our present state of obstetrical practice, it is rather a serious one; namely, that it should be strictly limited to hospital practice, and to physicians trained in obstetrics. It is not suitable at all for labor in the home, where the majority of our physicians have to do the most of their work. The more experience we have, the less willing would we be to undertake any cases in the patient's home.

Of course, a well regulated maternity hospital is the best place for any obstetrical case. Perhaps some day obstetrical cases will be placed in the class with surgical cases—not to be undertaken outside of a hospital unless under dire necessity. When that day comes, all mothers may sleep and have their babies as peacefully as Adam is said to have slept when Eve was taken from out of his ribs!

Moreover, general hospital care is not quite enough. There must be a nurse trained in the use of this anesthetic. A great deal depends upon the delivery room supervisor of nurses. She must know how to handle these cases. The average nurse is so accustomed to talking to the patient, telling her to bear down, or else trying to distract her mind, that she cannot understand that with scopolamin anesthesia this is contra-indicated. Also, it is the nurse who must see that the syringe does not leak;

that her patient gets all the water she wants to drink; that the bladder is properly emptied; that the patient does not contaminate the operative field, and that she is properly fastened for delivery. She must take care of many details that can make the obstetrician's task easy or difficult.

Lack of training accounts for the undeserved disrepute from which this method has suffered. Physicians have undertaken to use this anesthetic without any real knowledge of it, not even so much as a knowledge of the correct dosage. Some have undertaken to use it who should not be doing obstetrics at all. This is a point upon which it is embarrassing to dilate. In fact, were I not talking to obstetrical specialists, I would hesitate to mention it at all; but it should be stated that success with scopolamin anesthesia is limited by the physician's general knowledge of obstetrics.

The special advantages of this method of treatment have been touched upon here and there throughout this discussion. To its advocates, they seem so overwhelming that they scarcely admit of argument. In fact, if we admit as facts what those who are experienced in this method claim, we must say that there simply is no argument. Stated briefly, these facts are:

(1) A lowered mortality rate for the mother. Here again, I will have to ask forgiveness if I quote the statistics of the Wheatland Hospital, since they are the only ones of which I have first-hand knowledge. We have used this method for fourteen years, in the earlier years for carefully selected cases only. In 1918 and 1919, we used it for 95 per cent of all cases, unless the mother herself asked that it be not given. For the last three years we have had no requests of this kind, and have given it in all cases, with a single exception. For this exception, I feel somewhat apologetic. We have made it a rule not to give scopolamin when we have reason to believe that the child is already dead. There is, of course, no true contra-indication, but until this anesthesia is more firmly established in popular favor, it seemed best not to give occasion for undeserved criticism. Fortunately, since 1915 we have had but three such cases. These were all delivered under nitrous-oxide and chloroform anesthesia.

Altogether, we have delivered 739 patients under this anesthetic, and our mortality is as follows: In 1920, one mother died from a gonorrheal infection, a metastatic pneumonia four weeks after the birth of the baby. In 1918, one mother died from pneumonia during the influenza epidemic (three weeks after child-birth). From 1918 back to 1909, we did not lose a mother who had this anesthetic.

It seems only fair to state that we have had an unusually high percentage of cases with which trouble was expected. Some of these had been referred to us by other physicians, who frankly stated that they were passing on undesirable cases. Some patients have come of their own accord, perhaps on account of advancing years, or because of difficulties experienced in previous labors.

In the mortality rate for babies, I am excluding babies who were more than six weeks premature. With this understood, the mortality is as follows: In 1921, one death, a monstrosity; in 1920, one death from syphilis, on the tenth day; in 1919, one death from congenital heart lesion, lived 48 hours. Previous to 1918, I cannot give the exact statistics for babies, as we were not careful to keep them separate from those cases where this anesthetic was not used; but in no year has the mortality rate risen to 2 per cent, always excluding the distinctly premature. It will be understood that all of these babies were hospital-born babies. Even so, I believe this anesthetic must be given part of the credit for the unusually low rate.

(2) Only second in importance to a lowered mortality rate, is a lowered morbidity. There is unquestionably less general shock, higher resistance to infection, less necessity for operative interference, fewer lacerations, and a shorter and happier convalescence.

(3) There are unquestionably fewer complications. I want to call attention to the remarkable fact that we have not had a single case of eclampsia during labor when this anesthetic was used.

(4) If operative interference is necessary, it is attended with less danger and less difficulty than is usually the case. No further anesthetic is necessary, and anything may be done that is indicated, from episiotomy to cesarian section.

(5) Last, but not least, pain in child-birth is conquered. It is astonishing with what unmoved countenance physicians have watched the intolerable pains of labor. As Dr. Henry Smith Williams of New York, has said: "I think we may take it as settled that the agonies of child-birth do not benefit the mother. No one has claimed, I believe, that they benefit the child. Shall we not then say, unreservedly, that painful child-birth in this age of scientific medicine is a reproach to medical science, and a blemish on our boasted twentieth-century civilization?"

I believe that no class of medical men feel their responsibilities more keenly than do obstetricians. On the obstetrician rests the responsibility of two lives. Nothing would tempt him carelessly to jeopardize either. This method is no longer an experiment. It has stood the test of time and all sorts of conditions. It is a joyous thing to be able to go beyond telling you that it works and that it is not dangerous. It does more: It saves life instead of sacrificing it; still more than all that, it saves the mothers, and it saves the babies.

ABSTRACT OF DISCUSSION.

Dr. R. E. House of Ferris: It has never been my opportunity to follow in detail the routine outlined by Dr. Phifer, consequently I can offer no advice, further than that apomorphia, grain 1/60 to 1/50, has, in combination with scopolamin, proven more satisfactory to me than morphin.

No one can violate the laws controlling the dose of any drug and go unpunished. That applies to scopolamin. The author has attempted to show that the danger attendant upon the use of scopolamin has been greatly exaggerated. Any drug that can be used in so many different ways by so many different people, cannot be very dangerous. When I use scopolamin in obstetrics I know I will finish my work more satisfactorily to the patient, and complete the delivery in less time and with fewer complications, than I would otherwise.

My hospital experience makes me appreciate their advantages, but I must say my heart goes out to those women who cannot go to a hospital. I fail to appreciate where any great skill comes in administering scopolamin. All that is required for success is caution, patience and skill, together with a little nerve and understanding. I have never used scopolamin in a hospital, for the reason that I have never been invited by a hospital to bring my patients there, and my work in the home with scopolamin reads like an epic.

I will say, in encouragement of the unfortunate women who are unable to go to hospitals, that the effect of the drug is always the same, and the physician who is not afraid to use scopolamin would not hesitate to use it in a home any more than he would morphin. All that a hospital has to offer is improved methods of antisepsis.

Dr. Gauss correctly answered every type of criticism when he said, "The trouble is not Twilight, but to the mistakes made in its name." After ten years experience I can say that there is no barrier against the use of scopolamin that is either formidable or insurmountable, and in the scope of its value and the quality of its offering, scopolamin, like ether for surgery, must have been provided for the expectant mother. The discovery of Dr. Steinbuchel will never die so long as men like Dr. Phifer, and many others too numerous to mention, at great sacrifice, give to the medical profession the end results of their experience.

Dr. Phifer (closing): Every physician naturally prefers his own methods. It appears that Dr. House has been very fortunate in his work; nevertheless, I still insist that the physician who attempts to use morphin-scopolamin in the home of the patient is going to get into trouble sooner or later. For one thing, some of these cases drag out for more than forty-eight hours, and should not be hurried. The busy obstetrician does not find it practicable to stay with a case such a length of time. As to the objection that hospitals are not available, I see no reason why any town should not have a hospital for obstetrical and surgical work. My town has less than fifteen hundred people. I think that if I can maintain a hospital there, one can be maintained in almost any town.

I hope my paper will not mislead anyone. I am not doing obstetrical work outside of the hospital, and am not doing it without trained help. If any of you attempt this work outside, and should not have the very best luck, you will have to blame Dr. House.

THE ALLEVIATION OF PAIN IN LABOR.*

BY

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We have for our mission in life "the alleviation of pain, the preservation of life, and the promotion of human happiness." That expression may sound trite, but as an elder of the fraternity, I beg of you never to allow it to become trite and innominate in your practice.

In the broad experience of the doctor's life, there is no place more needful of this standard than in the lying-in room. Before he can rightly get in touch with a given case, he must first individualize his patient. He must find her mental slant and temperament before he can make a correct diagnosis, after which his prognosis will be guided by his knowledge of similar cases. Many times this may be easily summed up in "everything is all right."

I do not like to believe in a literal interpretation of the Scripture bearing upon labor in childbirth. I endeavor to relieve not only the final suffering, but also the unpleasant complications from the beginning, always avoiding excesses.

For the last five years, it has been my custom to advise my patients to eat less. By requiring a starvation diet I usually succeed in reducing the amount of food somewhat, but even then they eat too much. However, if these patients can be made to understand that excess diet goes to make a larger head and body for the baby, he can get a good listener, and usually one who will carry out his instructions. The advantage of this regime will be shown on the day of delivery.

Not only will the lingering months of pregnancy become more pleasant and livable under a systematic course of food regulation, clothing, exercise, etc., but it will not become necessary to procure specimens of urine every two weeks to find out whether or not the patient is becoming toxic. I am not condemning this measure, as it is highly important if the patient has not observed the regulations, but to me, the procedure is more a matter of post-mortem than precaution.

The patient having reached her baby's

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birthday, the doctor should make the delivery with the least possible pain and resultant shock to the mother. He should never hurry the pain by giving pituitary, often with the result of rupture, a dead baby and a heartache for himself. Rather, as soon as a diagnosis has been made, he should administer hypodermically one-twelfth grain of heroin, and repeat at intervals of from two to three hours, as required to alleviate pain, until full dilatation. This usually requires from two to five doses.

This has been a routine of mine in all primipara cases, covering several years. Not infrequently the baby has been born before the effect of the heroin has passed off. If not, only a few whiffs of chloroform are necessary. While this is not a twilight sleep, it is the next thing to it in relieving pain, and without untoward results to either mother or child.

With our good road facilities, it is not necessary to send a pregnant woman to a hospital. If the doctor apprehends surgical interference, it is an easy matter to bundle the patient into a car and send her there. Otherwise, the family doctor should deliver his patient in her own home, and it is his duty to so manage the case that it will not become surgical under normal conditions.

I beg your indulgence when I say that, to me, the modern tendency in medicine is regretable. Individuality is being done away with, and our profession is degenerating into easy ways of making money. The family doctor, who was once looked upon as holding a priesthood, worthy of knowing everything vital to his people, welcoming their babies in the family home, even adding a few words of euthanasia in death, is himself becoming a thing of the past.

INDICATIONS FOR CESAREAN SECTION: PODALIC VERSION.*

BY

JOE GILBERT, M. D.,
AUSTIN, TEXAS.

It does not seem necessary to interfere with normal labor of a normal woman by performing a cesarean section, any more than it is necessary to perform a podalic version on every normal woman. The only indication I see for this particular procedure in a normal labor is to impress upon the public that something unusual is being done for the patient.

From my personal experience, and from a review of the literature, the indications for cesarean section are:

(1) Contracted or abnormal pelvis.—Pelvic indications for cesarean section may be absolute or relative. They are absolute if the true conjugate measures 5 c.m. (2 inches) or less, when cesarean section is necessary. They are relative if the true conjugate measures between 5 and 7 c.m. (2 to 3 inches) when delivery of a living, average-sized child is practically impossible. Delivery may be possible after craniotomy, without undue risk to the mother, unless the body of the child is over-large. Therefore, at full term, under the above circumstances, when the child is in good condition, cesarean section is the operation of choice. If the child is dead and there is danger of infection, craniotomy may be considered.

A moderately contracted pelvis in which one or more previous labors have ended disastrously for the child, calls for cesarean section. In a case I have in mind, the patient had a forceps delivery with her first pregnancy. The baby was dead and she almost lost her life. During her second pregnancy she consulted me. After measuring her pelvis and finding it contracted, a cesarean section was advised. This was done at full term—after pains had begun, with a living child as the result, the patient making a normal recovery. In her third pregnancy she determined to bear the baby normally. She entered the hospital, and when her pains began she was left to progress naturally, a close watch being maintained as to the condition of the uterus. The pains continued for about twelve hours without any progress, when she asked for the operation. This was done, with the same good results as before.

(2) Tumors, especially fibroid tumors, low down on the posterior wall of the uterus, or other tumors such as ovarian cyst or tumors of the sacrum, which might interfere with the progress of the head of the fetus.—I have seen patients, however, with multiple fibroids, who had been advised that it would be impossible for them to deliver children normally, go through deliveries without any kind of an operation, bearing normal children.

(3) Placenta Previa.—I have had no personal experience with placenta previa centralis, but believe that in this condition cesarean section is the operation of choice. My experience has been with a few cases of placenta previa marginalis, which were controlled by packing, nature doing the rest.

(4) Eclampsia.—There are certain indications for cesarean section in cases of eclampsia, especially in primiparous women before pains begin, or about the time pains begin. Some years ago, before cesarean section was

*Read before the Section on Gynecology and Obstetrics, State Medical Association of Texas, Fort Worth, May 10, 1923.

quite as safe as it is today, and hospital service was not so efficient, it was my unfortunate experience to lose a few of these cases trying to bring on forced delivery in primipara. In more recent years it has been my practice, in primipara, where convulsions start before the pains or before a thoroughly dilated uterus, to do a cesarean section. I believe the earlier we operate in these cases the lower the mortality will be for both mother and child. In a multipara, if a quick delivery can be induced it is preferable, of course, to a cesarean section. Some authorities advise against cesarean section in eclampsia, but my small experience has convinced me that it is the safest procedure, particularly in a woman in her first pregnancy.

(5) A large fetal head which will not engage.—I attended a case a few years ago, a woman about forty years old, in her first pregnancy. The pelvic measurements were normal, and I advised her that from all indications she ought to have a normal delivery, although at her age it would probably take a long time. When confinement began, the position was normal, therefore I let her pursue the normal course for about twelve or fourteen hours, until the cervix was thoroughly dilated. The head would not mould enough to engage in the pelvic brim. I advised forceps delivery. After trying to deliver her I saw that it would be impossible to do so without death to the child. I examined the fetal heart and found it good. I knew, also, that there would be a good deal of traumatism to the mother, so advised immediate cesarean section, which was performed, with good results to both mother baby. As this was the first and probably the only child she would ever have, she was very grateful.

(6) Extreme toxemia of pregnancy in the last few months.—Where possible, it is better in these cases to bring on premature labor by packing the cervix. One case in particular, brought to the hospital during the influenza epidemic, will be mentioned. This woman had had influenza with pneumonia, with a very stormy convalescence, but had recovered when confinement began, with the exception of a nephritis. The urine showed heavy albumin and hyaline, granular and blood casts, upon every examination, a few weeks before she was brought to the hospital. On entering the hospital her blood pressure was 200 systolic. When she entered she was beginning to have slight pains. She was suffering from a severe headache, and was in a beginning coma. She had a small pelvis, and a normal delivery would have taken from twelve to twenty-four hours, with a probable forceps delivery, and a comatose condition. Therefore, a cesarean section was done, under gas-oxygen anesthesia, with a quick delivery, thereby saving both mother and child. The patient remained a nephritic for several months, but cleared up finally and has had no trouble since. The child is now about four years old.

(7) Breach presentation in elderly primipara.

(8) Moderate hydrocephalus.

(9) Impacted shoulder presentation when the child is alive.

(10) Face or brow presentation with chin posterior, the child living.

(11) Cicatricial stenosis of the cervix following repair of lacerations.

(12) Syphilitic ulceration.

(13) Cancer of the cervix.

(14) Atresia of vulva or vagina.

Operation is always indicated and agreed upon as an alternative to the employment of axis-traction forceps. Hirst says, "The risk of cesarean section in competent hands is not nearly so great as the risk of serious or fatal sepsis after a complicated vaginal delivery." De Lee expresses himself in similar fashion.

Certain factors increase enormously the risk of cesarean section, such as (1) length of time patient has been in labor; (2) length of time membranes have been ruptured; (3) number and technique of vaginal examinations made, and (4) previous attempts at vaginal delivery by forceps.

As to whether a patient can deliver a normal child after a cesarean section has been performed depends, of course, upon the condition of the uterus. Such a patient should be in the hospital, and be watched carefully, with everything in readiness for an emergency operation. It is agreed that many scars heal so completely that it is safe to let the patient go into normal labor. On the other hand, many cases have been recorded where rupture of the scar has occurred, or at operation where it was found to be so thin and weak as to endanger the life of both mother and child.

Personally, I have had occasion to operate a second time in two different cases. On examination of the uterus in each case, I was not able to find the old scars. Therefore, I could see no reason, if the pelvis had been normal, why there could not have been a normal delivery. These two may have been exceptional cases, or they may have been the rule. It is impossible to judge, personally, from a limited number of cases. My

experience with this operation has been comparatively small.

With good hospital facilities and good nurses, cesarean section should be a safe and satisfactory operation in indicated cases.

INDICATIONS FOR PODALIC VERSION.

Some of the authorities give the following as indications for podalic version:

(1) Transverse Presentation.—It seems to me that it all depends upon the condition of the patient whether podalic version is indicated in this particular position. For instance, in a primipara, in good physical condition, with a few digital examinations, just starting in labor, it seems to me that cesarean section would be the method of choice. And again, in a multiparous patient who is normal, with the uterus thoroughly dilated, who has been examined a good many times, internal podalic version would be the method of choice. Therefore, it seems to me that upon the condition of the woman and the child would depend whether podalic version or cesarean section would be indicated in transverse presentation.

(2) Abnormal Head Presentation, Face, Brow, Anterior and Posterior Parietal Presentations.—Much depends upon whether or not the head can be turned into a normal position, whether the pelvis is normal, whether the child's head is normal, whether one thinks a normal delivery could be had in a normal position, and whether or not one would be justified in using forceps rather than resorting to podalic version.

(3) Placenta Previa.—Some of the older writers say this is an indication for rapid delivery by internal podalic version. It seems to me that most of the authorities agree that cesarean section is the method of choice in such cases.

(4) Any complications on the part of the mother or child, which would demand rapid termination of labor when forceps are contra-indicated.—Dr. Irving W. Potter of Buffalo, goes further, and says that in most recent years 90 per cent of his deliveries have been by internal podalic version, even in normal cases.

I may be wrong and may change my opinion sometime in the future, but at the present time I could not believe that women have reached the stage of development where it is necessary to interfere with normal labor to that extent. The fact is, girls of today are better developed physically than they were during our mothers' or grandmothers' lifetime. I have noticed this in particular in college girls who are given physical training, such as dancing, swimming, basketball, tennis, golf, etc.

Dr. Potter states that he has delivered 14,000 women. I have no reason to doubt his word, but 14,000 deliveries would average one delivery every day in the year for almost forty years. He says he has delivered about four thousand of these by podalic version in the past few years. He says it takes him about one hour to make this delivery. If with his experience it takes one hour to deliver a woman, some of us who are less experienced would require an hour and a half or two hours. Any abdominal surgeon who has done a cesarean section a few times, can make this delivery in from twenty to forty minutes, with less traumatism to the mother and less danger of infection, and with a very limited number of fetal deaths. It seems to me, therefore, that cesarean section would be preferable in ninety per cent of his cases.

But the laity would not stand for ninety per cent of deliveries by cesarean section. They will stand for any kind of an operation that does not require cutting, as they call it, or opening the abdomen. I think it is wrong to teach students and the younger members of the profession, to interfere with labor to this extent. Nature is already suffering too much interference. It is astounding to consider how much the human body can stand.

One class of obstetricians advises us not to make any vaginal examination at all, but make out the presenting parts by rectal examinations and abdominal palpation. Another advises us to perform an internal podalic version in ninety per cent of cases, and in this procedure it is necessary to introduce the hand up to the elbow. Which of these procedures will the student and young physician select?

It is my practice to give every normal woman a chance to bear her baby naturally, but if it is necessary to interfere with nature, I don't hesitate to do so.

Dr. Potter says it saves time to deliver a woman by podalic version. I want to state that if a physician hasn't the time to deliver his obstetrical patients normally, if they can be delivered normally, he should not accept their cases. He should turn them over to someone who has the time and the patience to make the deliveries.

This is not only my opinion. I have talked to many other physicians who are of the same mind. I wrote to my friend Dr. Harvey B. Mathews of Brooklyn and New York who, by the way, was an Austin, (Texas) boy, and received his education at

the University of Texas and in the Medical Department of the University of Texas. Since going to New York he has been associated with Dr. Polak for the past ten or twelve years, as his assistant and associate. I asked him about the work of Dr. Potter of Buffalo. He says:

"I do not believe I can help you out very much, except to say that, of course, neither Dr. Polak nor I believe that it is right to do a version in each and every case. We never do a version unless it is indicated, but when we do have to do one, we think that Dr. Potter's technique is a marked improvement over the methods that you and I were taught fifteen years ago. Neither Dr. Polak nor I have written anything in a statistical way about Potter version because we have not had a sufficient number of cases, since we only do it where version is indicated. Dr. Polak did review Dr. Potter's book for the *American Journal of Obstetrics and Gynecology*, which appeared last May or June, and I reviewed his book for the *Long Island Medical Journal*, which I think appeared last November, but there was nothing original in either of these reviews, and if you have the book, read it, and disagree with everything Potter says except the technique of the Potter version, and you will have about what these reviews contained.

"Regarding his foetal mortality, it still remains two to three times higher than it would if he would use his head and what the older obstetricians teach. As to his mental morbidity, we have never been able to find any definite statistical data, but I do not hesitate to say that it must be higher than the average good, conservative obstetrician's is, because I cannot imagine a case that would be normal if let alone having no morbidity with displacing the head and doing a version. All versions that I have ever done I believe have a little more morbidity than a perfectly normal L. O. A. would have."

My conclusions about podalic version are about the same as those of Dr. Mathews. It should be used in indicated cases, and the real indications are few.

ABSTRACT OF DISCUSSION.

Dr. C. R. Hannah of Dallas: Whenever we have a case of eclampsia we get frightened; at least the people get frightened, and if we don't watch out we get it, and fear drives us into radical work. There are cases of eclampsia which would be better treated by cesarean section, but a majority of them will do better without it. McPherson, of the Lying-In Hospital, if I am right, a few years ago was radical. McPherson had one division in the hospital and Davis had another. Davis was a conservative. His treatment was elimination, morphine and other drugs to keep the patient quiet. In a large number of his cases McPherson had cesarean section. He has been converted, and is back to the conservative side now.

I believe fear and expediency are the two things that drive us into radical operations. We haven't got the courage to stand to our task and fight this trouble at this time. If cesarean section is such a fine thing for a woman who has eclampsia, how are we going to treat the woman who has post-mortem eclampsia?

Now, as to podalic version. I think Dr. Gilbert has spoken the truth about Potter's version. For what purposes is the version done? Potter says to relieve the mother of suffering. At the close of the first stage of labor, if I understand it, he does his version. I doubt whether he waits for the first stage of labor to be completed. I think podalic version has its place, the same as bags, and cesarean section, but the trouble with me is I don't know just when these measures should be resorted to.

Dr. I. L. Van Zandt of Fort Worth: My idea has been to eliminate, clean out the bowels. The first thing I did when I practiced obstetrics, if I found a case threatened with or actually in convulsions, was to give some veratrum viride, which generally checked up things somewhat. Then I dropped a drop of croton oil on some sugar and stuck it away back in the mouth, and it was but a little while until I got the colon pretty well emptied. Then I used the sedatives as required. The author spoke of Dr. De Lee and his treatment. When this Association met at Amarillo, in 1912, I read a paper on puerperal convulsions, in which I advocated that line of treatment, and not forced labor. I sent a copy of my paper to Dr. De Lee, and he said he didn't agree with me. A short while back I came across Practical Medicine Series, the volume of which he is the editor, and he spoke of *waiting until low forceps could be used* to deliver the patient. I wrote him, congratulating him on his progress. Here is what he says:

"I received your reprints, which I read with much interest; also your letter, and am pleased to learn that you are still in active work. I still have a rather conservative method of treatment of eclampsia, although I do deliver the case as soon as it is possible to do so *without too much damage.* (Italics mine.) I also have gotten a little more active in the treatment of threatened eclampsia, although the general tendency seems to be in the opposite direction."

Dr. Robert A. Johnston of Houston: In the discussion of Potter's podalic version as a routine procedure, I wish to declare my position to be on the conservative side. I have had the pleasure of talking to Drs. Matthews and Polak of Brooklyn, and know they do not endorse such a procedure. Dr. Whitridge Williams of Baltimore, and Dr. W. E. Studdiford of Columbia, strongly condemn the routine employment of podalic version, as advocated by Potter. We should be willing to profit by the good points of the so-called Potter's Version and realize that it has some advantage over the old method, but as a routine procedure, Potter's own statistics certainly do not justify its use. I believe the medical profession is willing to give Dr. Potter the credit of reviving and pointing out the correct method of performing version, but it is not yet willing to substitute an operative delivery for a normal, spontaneous parturition. I have been informed that at the Woman's Hospital in New York, Dr. Potter had the misfortune to loose one baby out of the five versions he performed.

Obstetricians are facing a problem brought on by the laity in the demand for childbirth with the least possible pain, regardless of the after-results. The problem resolves itself into this: Is it justifiable to resort to operative measures in spite of higher foetal mortality and maternal morbidity, in order to save the patient a limited amount of suffering? At present, expectant, conservative obstetrics seems to be the logical course to pursue, for the obstetrician as well as the general practitioner.

Dr. Gilbert (closing): Dr. Hannah said something about conservative treatment of eclampsia. I agree with him there. I had a case a few years ago, six months pregnant, that I treated conservatively. She came in with convulsions and had five or six of them. Under conservative treatment the convulsions were relieved. In about a week the convulsions returned and I had to do a rapid cesarean section to relieve her. Since then I have not waited so long. When the patient is getting progressively worse, I believe it is safer to go ahead and do a

cesarean section than it is to wait for nature, or resort to conservative measures.

As for post-delivery cases, it seems to me that most of them are not as severe. In fact, I don't remember ever losing a post-delivery case of eclampsia. I believe the cause has been removed, but the effect has not. If treatment is conservative, nearly all of these cases clear up in a few hours. At least that has been my experience, and I don't think we ought to class the post-delivery cases with the others. Some eclampsia cases will not get well without surgical treatment. If you deliver them soon enough by cesarean sections, 90 per cent will recover.

CESAREAN SECTION.*

BY

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The history of cesarian section is divided into four periods. The first period was prior to the year 1500, at which time cesarean sections were done only upon the dead, in the hope of saving a living child. The second period embraces the period from 1500 to 1876, during which time the operation was done only as a last resort, under which circumstances, we can readily understand, the mortality was enormous, and cesarean section did not come into any good repute. In 1876, I believe it was, which embraces the third period, Porros advised the amputation of the uterus at the cervix, and fixation of the cervix at the lower angle of the wound, in the hope of preventing hemorrhage and infection, and this reduced the mortality to such an extent that the operation came into favor again. In 1907, Frank of Cologne, devised the transverse or extraperitoneal incision, since which time the mortality has been wonderfully reduced. The operation has been modified many times. It has now narrowed down to practically two operations, the classical and the extraperitoneal.

The most important factors in the whole subject of cesarean section are the indications, and when I say that there is but one absolute indication I may be getting into rather deep water. But the increasing safety of abdominal surgery, and the fact that the operation is much easier than any but the easiest obstetric operation, has caused a loss of perspective, and cesarean section is done for all conditions which so complicate labor as to seriously threaten the life or health of either mother or child, and although the operation cannot be said to be without risk to the maternal life, the risk is comparatively small.

Cesarian section is indicated where there is some pelvic obstruction which renders delivery by the vagina impossible, or as dangerous as an abdominal delivery. This is admittedly the only imperative indication for the operation, and the surgeon who does it for any other reason must be reasonably certain that the benefits to be derived are sufficient to warrant the increase in the maternal risk. Statistics show that eight out of ten women with contracted pelves can be delivered by the vagina.

Patients who show definite heart lesions, particularly mitral stenosis or aortic regurgitation, are seldom if ever good risks for any but the easiest of labors, and cesarean section should be performed if there is reason to expect difficult labor.

Multipara with marked contraction of the outlet, who have had difficult labors and who have suffered from serious lacerations, present a definite indication for cesarean section.

Perhaps there is too much conservatism in placenta praevia, with rigid cervix and non-obliterated canals. However, I agree with Franklin Newell that the great majority of cases of placenta praevia are best treated either by version or induced labor.

Tumors of the uterus or other pelvic organs, when large enough to prevent the entrance of the presenting part, call for cesarean section.

Just what place has cesarean section in the treatment of eclampsia? I know of no question that divides the obstetricians of the country more completely than this one does. I am on the side of the conservatives, and therefore make little use of cesarean section in the treatment of eclampsia.

In malpositions of the fetus, when it is not possible to correct them, cesarean section is indicated.

Malformations of the uterus may be an indication for cesarean section.

The operation is indicated in accidental hemorrhage, in the interest of the mother only.

It is undesirable to perform ventro-fixation in relatively young women.

Inter-position operations for cystocele should not be performed until after the menopause, as they invariably result in extreme distocia.

In prolapse of the cord, I would not hesitate to perform the operation, although I have never done so, if the patient were an elderly primagravida, and the cervix rigid.

Probably more cases of retraction and contracted rings in the child will be treated by cesarean section in the future.

There are few who advocate such radical measures as cesarean section in rigidity

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of the cervix and vagina. The operation is indicated in Graves' diseases, threatening the life of the mother.

"Once a Cesarean, always a Cesarean." In other words, is the danger of uterine rupture greater than the risk of repeated operations?

I believe that Earl Holland and Monroe Kerr claim that any woman who has had a cesarean section is liable to a ruptured uterus. However, the rupture occurs rarely, and there are many cases where women have had several cesarean sections, still there isn't any question but that it does predispose to rupture of the uterus.

THE TECHNIQUE OF THE OPERATION.

Preferably the operation should be performed after labor has set in. The cervical dilatation thus secured permits freer drainage, uterine contractions are less vigorous, and there is less disturbance in the uterine wound. The abdomen is shaved, scrubbed with green soap and sterile water, dried, then washed with 95 per cent alcohol, followed by Harrington's solution, and then again with alcohol. Either the high or medium incision is employed. In the latter case, a midline incision, with the navel in its center, is used. There is no good surgical reason why the navel should constitute a landmark below which the incision should not extend. The umbilical extra-peritoneal cesarian section may have some advantages, but there is so much chance of tearing the peritoneum that it seems to offer little security against entering the peritoneal cavity. "Protecting the peritoneal cavity by suturing is a true intra-peritoneal operation so far as postoperative peritonitis is concerned." On post-mortem examination it is found that peritonitis following cesarean section is a wound infection that can be traced from the interior of the uterine cavity, through the incision, and along the suture lines. "Careful stitching of the abdominal to the uterine peritoneum; overlapping of the layers of peritoneum; the making of the abdominal incision and uterine incision at right angles to each other, all leave behind the same condition when the operation is completed; namely, incisions with suture lines at some place connecting the interior of the uterus with the peritoneal cavity."

After the abdomen is opened, the hand is passed about the uterus, to ascertain its freedom from pathological conditions, and its mid-line is drawn to the line of the abdominal incision. Wet towels are used instead of sponges, to wall off the cavity. The uterine incision is made down to the membranes and enlarged with the scissors or fingers. The hand is used to separate the membranes freely before rupturing them. If the placenta is first encountered it is quickly incised. The fetus is extracted and passed to an assistant, after cutting the cord. Neither ergot nor pituitrin is given until the child is removed from the uterus. The fingers of an assistant, hooked in the upper angle of the uterine wound, make traction and empty the uterus immediately after the child is delivered.

Pituitrin, 1 c.c., is now given hypodermically, directly into the uterine wall, and an ampule of ergot is injected into the thigh. The placenta and membranes may now be rapidly stripped off and easily lifted from the uterine cavity. Two layers of continuous sutures of No. 2 chromic gut are used for the muscle wall. At each stroke the needle passes obliquely downward and inward. Although not locked, the sutures readily control bleeding. Care is taken to secure well the upper and lower angles of the uterine wound. The serous coat of the uterus is closed with plain catgut. The Lambert suture is employed for the purpose. The abdominal incision is closed, as usual, with the addition of three stay sutures of silkworm gut. To relieve pain, morphine is given freely during the first thirty-six hours. Gastric dilatation is treated by pituitrin and lavage. Simple intestional distention is relieved by pituitrin and the insertion of the rectal tube.

It is claimed that if the placenta is delivered per vagina in infected cases, it will greatly lessen the danger of infection.

ABSTRACT OF DISCUSSION.

Dr. Robert A. Johnston of Houston: In regard to the advisability of performing a cesarian section, two of the most important points to be borne in mind are the duration of labor and the number of vaginal examinations made. Williams, in his report of 187 cesarean sections during the past twenty years, showed that maternal morbidity and mortality depends largely on the length of time the patient has been in labor and the number of vaginal examinations. In view of this fact, in cases of prolonged labor and repeated vaginal manipulation, if delivery by cesarean section is the method of choice, it is advisable to remove the uterus. These points should be considered by the surgeon when he is called in consultation. Quite often these cases have been at home; the attending physician has done his best under such conditions but intrapartum infection is present, as indicated by elevation of temperature and accelerated pulse rate. In such cases one must realize the danger of cesarean section, especially if the infected uterus is not to be removed.

Dr. Frank C. Beall of Fort Worth: In this day of medical specialism obstetrics is somewhat behind the times. This is one of the specialties that has been pretty hard to get away from the general practitioner. Most of this work is still done by them. The general practitioner is not prone to call in an obstetrician, because the obstetrician is a

competitor, and cesarean section will, for a long time, have to be done in great part by the general surgeon.

I am inclined to agree with the essayist, in the main, in regard to his conservatism, but there is always a danger of overdoing conservatism. Very few cesarean sections are emergency operations. The attending physician usually has an inkling of trouble before the onset of labor. Such cases should be carefully worked out, and should be brought to operation before they have been contaminated by vaginal examinations or their strength overtaxed by ineffectual labor pains.

Dr. I. L. Van Zandt, Fort Worth: In my whole practice of fifty-seven years, I have had four cases of placenta praevia. Two of these were marginal and two central in type. The two marginal cases were relieved by draining off the water. One of them lost considerable blood, but the other lost very little blood. One of the central cases I had to care for by myself, as I was ten miles in the country with no professional help available. In the other, I am free to say that the advice to resort to cesarean section given by our chairman, was good. She was bleeding freely and I packed the cotton in firmly, all around, and kept on packing it in until the vagina would hold no more. In twelve hours there was only a stain showing through. I should have taken this patient to the hospital for a cesarean section. She came through in time, but the baby was lost. This is the only case in my practice in which I regret that cesarean section was not done.

Dr. Mackechney (closing): We as a profession do not object to the general surgeon doing cesarean sections, but we do seriously object to the general surgeon passing upon the advisability of doing cesarian sections. The delivery of a good many of these patients by Potter's method would get away from a cesarean section. We are not making a fight on the general surgeon, but the general surgeon, when called on to see one of these patients, should call an obstetrician to tell him whether or not it is necessary.

If we can get these patients to our offices every two or three weeks, and I insist on them coming to my office every two weeks, unquestionably we can prevent some cases of eclampsia, hence some cases of cesarean section. Dr. Walker did a cesarean not many months ago on a patient I saw in consultation with one of his associates. I suggested at the time that they terminate the pregnancy. I believed then and believe now, that the case became post-mature. She had a cesarean section, and both she and the baby recovered, but in my humble opinion this is one cesarean section done unnecessarily.

INFANT MORTALITY IN THE CITIES OF TEXAS.*

BY

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FORT WORTH, TEXAS.

It is my purpose to discuss cities which have a population of ten thousand or more. Some of my friends have suggested that this discussion should come under the Public Health Section. That may be true, but there are many of us who do not attend the sessions of that section, and we should be informed. The subject is of vital importance to every citizen of Texas, and of very vital concern to the medical profession. When we consider the number of infants who never reach the age of one year, it is appalling. In Texas, where the air is pure and we are supposed to live out in the open, at least seventy-five hundred babies die every year.

Infant mortality in the United States, as a whole, is said to be about ninety-four per thousand. I do not generally make comparisons, but that of New Zealand is less than sixty-eight per thousand.

There are, within the boundaries of this State of ours, thirty-one cities with a population of more than ten thousand. I have made a study of some of the vital statistics of these cities, and here is what I find in some of them. My information is from public records, and I would like for the representatives from these places to take issue with me if I am wrong. My figures are for the year 1922:

Abilene has a birth rate of twenty-five, and an infant mortality rate of thirty-seven.
Amarillo's birth rate is thirty-one, and infant mortality rate is fifty-four.
Austin has a birth rate of 14.
Beaumont.—Birth rate, 22; infant mortality, 134.
Cleburne.—Birth rate, 24; infant mortality, 41.
Corpus Christi—Birth rate, 22; infant mortality, 121.
Dallas.—Birth rate, 22; infant mortality, 86.
Del Rio.—Birth rate, 18; infant mortality, 239.
Denison.—Birth rate, 17.
El Paso.—Birth rate, 27; infant mortality, 136.
Fort Worth—Birth rate, 18; infant mortality, 73.
Galveston.—Birth rate, 18; infant mortality, 69.
Houston.—Birth rate, 20; infant mortality, 92.
Orange.—Birth rate, 22.
Paris.—Birth rate, 11; infant mortality, 134.
Port Arthur.—Birth rate, 22.
San Angelo.—Birth rate, 14.5; infant mortality, 90.
San Antonio.—Birth rate, 25; infant mortality, 135.
Temple.—Birth rate, 15; infant mortality, 160.
Tyler.—Birth rate, 14.
Waco—Birth rate, 16; infant mortality, 70.
Wichita Falls.—Birth rate, 16; infant mortality, 60.

Amarillo stands at the head of the list with a birth rate of thirty-one, which is indeed highly commendable. Paris stands at the foot with a birth rate of eleven, which would indicate that she is well named.

Abilene towers above all in the matter of infant mortality, with thirty-seven. Cleburne is runner up with forty-one.

You will probably doubt the authenticity of my report when I tell you that of every thousand births recorded in Del Rio, two hundred and thirty-nine die before they are one year old. Temple runs second highest in infant mortality, with one hundred and sixty.

Turning from figures, let us consider some of the causes of the conditions found. Breast

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feeding is denied the baby whose mother works away from home. Breast feeding is also denied many babies whose mothers do not want to nurse them. There are also those mothers who cannot nurse their babies successfully. It is said that the infant mortality among artificially fed babies is three or four times that of breast fed babies. I contend that if this be true it is needless.

The employment of mothers away from home, either preceding confinement or during their infant's first year, is detrimental to the child's health. Employment of mothers during pregnancy is associated with a high stillbirth rate, a high premature rate and a high mortality rate during the first month of life.

Our State laws call for the reporting of all births within five days from their occurrence. Many of us do not make these reports. Every time we fail to report a birth, it helps to lower our birth rate and to raise our infant mortality, as shown by the records. It also deprives the baby of part of his rights as a citizen, for he is due to have such an important event in his life inserted in the public records.

Another very important feature is to have all midwives licensed and inspected. Many births are not reported, many stillbirths occur and many new born babies die, because of the ignorance of the so-called midwife.

Much can be accomplished if the obstetrician will give his patients the proper pre-natal care. I do not believe in federalizing pregnancy, because I think that is a matter that should be handled locally. I stand six feet high and four square for the support of our constitution and statutes, but there come times when a halt should be called in the federalization process. Our lawmakers should strive to better the living conditions of their constituency, rather than to bring their own name into the limelight, and have it prefixed to some federal statute.

One of the problems connected especially with the artificial feeding of infants, is the purity—or rather, the impurity, of the milk. In our larger cities there are milk inspection ordinances and, as a rule, they are effective. It is incumbent upon the physician, however, that he know how to prepare the baby's food and that he be competent to instruct the mother and nurse how to prepare it properly.

While the water supply in our cities is comparatively safe, I believe that all water coming from the city mains, and given to an infant under one year of age, should first be boiled.

Child health centers, teaching school children health habits, and medical inspection of schools, prepare girls of this generation to become better mothers in the next. Though these forward steps may not materially reduce infant mortality in our day, the medical man is serving humanity and future generations, when he lends his assistance and leads the way in undertakings of this sort.

It used to be thought that the more children who died, the greater would be the strength of the remaining number. We have long since learned that the diseases that cause the death of so many, may not kill all that are attacked. Some diseases, such as infantile paralysis, will leave them crippled for life; and so, instead of being stronger, they are left a burden to the community.

Inasmuch as a large percentage of the deaths of infants is due to pneumonia and kindred respiratory diseases, and knowing the habits of many mothers in the matter of dressing their children, I want to say that there are many fatalities among babies due, both directly and indirectly, to faulty clothing. This is due to one of three causes —lack of knowledge of how a baby should be dressed; carelessness of mother or attendant nurse, or inability to dress the baby properly.

There is another cause which must not be overlooked. Our general practitioners do not give enough time to diagnosis and treatment in their practice among children. It takes time, diligence, perseverance and wisdom, to treat those who cannot, by reason of their inability to talk, tell us their symptoms.

To sum up, I would say that if we want to reduce our infant mortality, we must

(1) Have all births recorded.

(2) See that all midwives are licensed and inspected.

(3) Insist on the proper pre-natal care of the mother.

(4) Foster health centers and medical school inspection.

(5) Boil the water if its purity is questioned.

(6) Have adequate milk inspection, including cows, dairies in general and creameries.

(7) Educate the mother to prepare the baby's food properly.

(8) Teach parents how to dress their children.

(9) The attending physician must be more careful in his examination, diagnosis and treatment of children.

ABSTRACT OF DISCUSSION.

Dr. Harry Leigh: In El Paso we have a situation among the Spanish-speaking people which seems to involve every one of the conditions the author has mentioned. We have, I think, about fifty thousand Spanish-speaking people, and the majority of the

confinements are conducted by midwives. Within the last year we have eliminated about sixty per cent of the incompetent midwives by examinations, and we are compelling the registration and reporting of births. Some doctors were signing birth certificates for midwives who could not qualify. By compelling the reporting of the births we have greatly improved the situation. I was told by Major R. E. Tarbett, of the U. S. Public Health Service, that we had lowered the death rate about sixty, compared with two years ago.

Another problem which I think is important, is the fact that very few of these Spanish-speaking people nurse their babies beyond one month, and if they do they usually nurse them up to two years, and the long nursing, without proper feeding, is about as bad as the short nursing.

Among these people we have a great deal of trouble with diseases of the respiratory organs. With them measels is about as bad as a plague, while whooping cough is about the worst thing possible. We are trying to educate them, but it is most difficult.

NUTRITION IN EARLY INFANCY*

BY

RALPH C. SPENCE, M. D.,
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Do you remember how anxiously we looked over the daily casualty lists during the World War? And how earnestly and painstakingly the mortality statistics have been compiled since? I wonder how many know that an infant born in Texas is in far more danger of death than any soldier who faced the German guns! How many realize the fact that approximately one baby out of every ten born in Texas during the year 1922, died before reaching one year of age? Based on mortality statistics, that rate is higher than was the death rate of our army during the recent war. There is nothing so important as an earnest effort to lower our infant mortality. The key to the situation lies in proper nutrition in early infancy. Herbert Spencer once said, "The first requisite in life is to be a good animal; and to be a nation of good animals is the first condition of national prosperity." It is a deplorable fact that infant mortality among civilized Americans is higher than that among the savages of South Africa. The savage lives mostly by instinct, and follows nature's plan, which is to nurse the young. Civilization has not improved that plan. Its attempts have resulted in a high infant mortality.

The most important period in the life of any individual is the first month, and next to the first month is the first year. More rapid changes take place during this period than during any other. Since this is true, anything of an abnormal nature which may occur at this time makes a more harmful impression than would the same abnormality occurring at a later period. It is, therefore, very important that the defects of the first few months of life be corrected as early as possible, or better still, prevented entirely. There is no time in which skillful preventive medicine is so important as during the first year of life.

When a baby is born without being consulted, it has a right to a square deal, and to give it a food from the beginning which nature intended for calves is not giving it a square deal. There is nothing that makes failure more assured than the belief that failure is certain. Especially is this true in breast feeding, since the emotional elements in the mother's makeup so materially affect the breast milk. Another, in order to give birth to her child, goes through a nerve-racking ordeal. Especially is this true with the first baby. As a result, the breast milk secreted may, during the first few days after birth, be of such nature as to cause the infant to be uncomfortable. Not infrequently, in nervous mothers the first milk secreted is very rich in fats. The digestive glands of the infant are not able to secrete enough juice to digest the excess, and it becomes an irritant. The infant vomits and may have loose stools. The mother worries because it vomits or because it has loose stools. As a result of the worry, her milk continues to be rich in fat. If this defect is corrected in the beginning, and it can be easily corrected, the infant stops vomiting, the mother ceases to worry and the breast milk becomes normal.

Oftentimes, in mothers who are inclined to be stout the breast milk secreted soon after birth may be enough in bulk but poor in quality. An infant may take enough of such a milk to regurgitate and yet be so hungry as to cry almost continuously. The mother doesn't understand why he cries, when he is getting enough food at a nursing to cause him to regurgitate, and she begins to worry. Because she worries the quality of the milk remains poor and a vicious cycle is established. The quality in others may be all right, but the quantity may be inadequate to satisfy the baby. He, therefore, cries. There may be other similar defects, all of which result in a vicious cycle, which can and should be corrected.

When you see a baby five or six pounds underweight, do you ever think just how much mentally he may have suffered because he was unfortunate enough to have gone through a so-called period of indigestion, which resulted in inadequate energy and growth assimilation, or how much his nervous control and moral stability may have suffered at the same time? The physical is only one of the factors that make up a normal, all-round life. Normalcy is wholly dependent

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upon proper energy assimilation, and energy assimilation is wholly dependent upon proper food intake. Nervous mothers make the poorest milk producers. Their nervousness is most probably due to the fact that during infancy and early childhood they went through a period of malnutrition, which resulted from improper food intake and poor food assimilation. It is important that such a mother make an earnest effort to feed her infant properly and thus save it from the lifelong handicap from which she has suffered.

The proper nutrition of young infants is best obtained by feeding normal breast milk, and the requirements for successful breast feeding are along common-sense lines. The nursing mother should act physically normal and be mentally normal. She then furnishes, without effort, breast milk of the right kind and sufficient in quantity. Mothers, as well as physicians, should know what proper nutrition is and why it plays the most important part in life and the prolongation of life. Life is nothing more nor less than a chemical transformation of food into growth, through energy and motion. In order for this transformation to take place normally, it is important that the source of all energy, which is food, be of the right variety. Since the time the world was made in seven days, nothing has been created. All the changes that have taken place have been changes due to transformation and not to creation. Everything contained in the world, and the world itself, is made up of five chemical elements—carbon, hydrogen, oxygen, nitrogen and mineral. Of course, there are numerous mineral salts. The human body, with its complex nerve tissue and its complex muscle tissue, is made up solely of these five substances. Muscle energy, which produces motion, and nerve energy, which produces thought, are the result of a chemical transformation of these five substances, contained in the food of the mother before birth, and in the food of the child after birth. By digestion and assimilation they give rise to growth, thought and motion.

Not only in infancy, but during the whole span of life, the most important thing is eating and assimilating the proper amount of a suitable food at the proper time. Energy intake is obtained in one way, and only one way—food assimilation, which is solely dependent upon food intake and normal digestion. Therefore, the cook is the most important servant connected with any household. The meals which an individual eats during the day, whether infant or an adult, constitute, without exception, the most important event that happen to that individual during that day, because energy output cannot be greater than energy intake, for any length of time.

Nutrition in early infancy has to do solely with energy intake, and proper assimilation of food. All babies born normal are born with a digestive system which will work successfully if given a chance. This system contains glands which will secrete those substances which are necessary to digest fats, proteins and carbohydrates, providing these ingredients are put into the stomach in proper proportions and under proper circumstances. In the beginning, the secretory function is not established. When an athlete begins to train in order to be able to run a mile, he doesn't run a mile the first day. He couldn't do it if he tried. He runs fifty yards the first day, seventy-five yards the second day, and so on. Nor does he stop on the third day because his muscles are sore. In the same way, the infant should have very small quantities of the different food elements at first, and increase in these elements should be made gradually. Nor should food be stopped or changed if during the first few days there is some discomfort. This discomfort will cease if the proper stimulation of the digestive glands is continued, and the digestive system will adjust itself to its proper food, just as the athlete's muscles will become more and more efficient, and will cease to be sore if he continues to train properly day ofter day. The thing to do, then, is to adjust the infant to the proper food, rather than to attempt to adjust the food to the infant.

Food is made up of three ingredients, fats, carbohydrates and proteins. Fats contain carbon, hydrogen and oxygen. Carbohydrates contain the same three chemical elements, but in different proportions. Proteins, on the other hand, contain four chemical elements, carbon, hydrogen, oxygen and nitrogen. All contain mineral salts in sufficient quantities to meet the body requirements, and for that reason we can eliminate them in this discussion.

Since the body is made up of carbon, hydrogen, oxygen and nitrogen, and since growth and thought are the result of these chemicals stored up in muscle tissue and brain tissue, in order for these functions to be performed normally, it is necessary that the food taken into the stomach or the digestic system, contain these elements in proper proportion, and this we call a balance diet. Since protein is the only element that contains nitrogen, the balanced diet must contain this element, and enough of it to meet the nitrogen requirements of the body. The question naturally arises, since this one food contains all of these chemicals, and since it is the only one which

does contain all of them, why not feed an infant protein alone? If this could be done, of course, the food problem would be easily solved. It has been experimentally proven, however, that when an excess of nitrogenous food is given, which is more nitrogen than is necessary to meet the body requirements, toxic substances are formed in order to get rid of the excess, and these have to be excreted through the kidneys. If this is continued too long, kidney irritation results.

Since this is true, a balance diet is a diet which contains enough protein to meet the nitrogenous requirements of the body, the excess being made up of fats and carbohydrates in proper proportions. If an excess of these two substances is given, it is excreted through the kidneys and gastrointestinal tract without irritation. As previously stated, since the secretory functions of the digestive system of a young infant have not been well established, it is most important that at this stage of life not only a balance diet be given but that it be given in that form which can be broken down by the digestive system with the minimum of effort.

If we accept the fact that nature is just, and that nature's plan, if not interfered with by outside influences, is right, and will work successfully, which of course we must do, the conclusion is that the balanced diet for any baby is its own mother's milk. If this were not true, nature would not have provided it. Breast milk, if normal, contains the three food elements, fats, carbohydrates and proteins, in just the proportions to make a balanced diet. Any substitute food should be as nearly like breast milk as possible, and there are no substitutes which are as good. Nothing more forcibly illustrates the correctness of this statement than the fact that statistics show that the mortality of bottle-fed infants during the first year is three times as great as that of breast-fed infants. Since this is true, every physically normal mother should make an honest attempt to nurse her baby. As the greatest blessing one can enjoy is "a sound mind in a sound body," every mother ought to feel it a privilege to nourish the body as well as to train the mind and soul of the child entrusted to her keeping and to bend here every energy to see that the proper nourishment is given the little body. If this were done there would be few failures and the great army of babies would march—or shall we say, creep—triumphantly through that crucial first year of life.

ABSTRACT OF DISCUSSION.

Dr. L. O. Godley of Fort Worth: Personally, I think the subject of nutrition is one of the most important we have to consider. If we were going out to build a house we would certainly see well to the foundation, and having the foundation laid, we would see well to the superstructure. Those of us who are working with children feel that we see entirely too many bottle-fed babies, and if I get the right thought from Dr. Spence, bottle feeding is one of the things to be avoided, and he is teaching us to conserve breast feeding in every instance where it is possible. There are many reasons for it. First of all, nature intended that the human infant should be nourished by suckling its own mother's breast, and that should be the course that we should pursue, insofar as possible.

If the infant has a little trouble in the beginning, we should follow out the author's thought and attempt to regulate mother and baby and we should remember that we are dealing with a relatively undeveloped digestive system. The infant's entire anatomy is only relatively developed. Few of its organs have been functioning heretofore; they have to learn to function, and we should be patient, and try to train the mother to be patient, and in time things will come around all right.

When we buy a new automobile, they tell us not to run the engine too fast for a certain time. The same applies to the infant's digestion; it cannot handle just anything to begin with, but the infant's digestive capacity and the temporary abnormality of the mother's milk production each have to be considered and to each must be applied corrective and constructive measures tending toward the normal.

Dr. E. G. Schwarz of Fort Worth: Sedgewick of Minneapolis can keep very nearly ninety per cent of his children partly breast fed, if not entirely so. There is no reason why we cannot do the same down here. Where additional feeding is required, we should use complemental feedings instead of supplemental. Don't stretch out your interval too long. The fact that your child is not receiving enough breast milk makes it essential to add to it each time rather than lengthen the interval by giving a bottle feeding entirely.

A FEW SUGGESTIONS IN DIFFICULT FEEDING CASES.*

BY

R. C. FERGUSON, M. D.,
EASTLAND, TEXAS.

Every feeding case has its own individuality. A given formula will not fit every case, no more than will one dress fit every woman. If we are to feed our babies properly, we should familiarize ourselves first with the chemistry of digestion, both in the normal and the abnormal child. We must know the processes that are going on in the digestive tract and understand what the different food elements do under various conditions. Second, we should acquaint ourselves with the different kinds of stools. This is important. Many a child has been purged and filled full of bismuth because its stools were of a greenish, brown color, with foul odor and loose in consistency, when all that was needed was the proper food. This stool is the typical starvation stool, and should be ever in mind. When found, feed the patient. I might add that when a baby's stomach and

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intestines are filled with bismuth its power of digestion and assimilation are greatly lessened. I am giving less medicine to children than ever before. In addition to macroscopical examination of the stools the microscope is a great aid in determining the type of indigestion present. Third, we must prove our ability to differentiate nutritional from disease conditions. This is also important. At times it is very difficult. And in this connection, I want to say that of all professions, the doctor is the most observing, or at least he should be. The laity demands it. While the lawyer and other professional men have from a day to a week to answer the questions of their clients, the doctor is supposed to answer in a few minutes.

The general practitioner is often consulted by a mother who is more or less informed; one who has read newspaper articles or excerpts on child welfare printed by the government, desiring to know how to feed her baby so that it will weigh what it should. The average doctor will inform the mother that if her baby is not sick she should not worry about its weight. This is a serious mistake. A child that is under weight should receive the proper food, just as a sick child should receive the proper medicine, and the sooner the profession learns this fact, the easier it will be to treat infants and children. Older children suffering from the effects of improper feeding in infancy, frequently come under my observation. We, as physicians, can readily see why this is true. A child that is under weight, poorly nourished and anemic, naturally has a poor resistance, while a child of the proper weight is rosy, well nourished and has good resistance. If we are believers in phagocytosis, why not remember it in this particular and apply it? We know that cow's milk is rich in casein, and that it is intended for the calf. The infant's stomach is not capable of taking care of such milk undiluted, as it contains 3.5 per cent protein, of which casein is the most important element. Mother's milk contains 1.5 per cent protein.

The other day a doctor said to me that when his daughter was a baby she could not take cow's milk on account of casein indigestion. In this case, as in others, a proper modification of the milk was all that was needed. While casein indigestion is more or less common, it never causes the nutritional damage that follows indigestion from some of the other food elements, such as sugar, fat and the starches. The failure of the stomach to take care of the casein is manifested by vomiting of large masses or curds, sometimes so large that they nearly choke the child. This happened recently in a case that I am observing. Portions of these curds get loose in the intestinal tract and pass out as hard, bean-like substances, which sink in water and are of a yellowish, brown color. When once seen they cannot be be mistaken for anything else. This condition is seen in small babies who are taking too high concentration of milk, and in older children who are taking undiluted cow's milk. This is particularly true when the child's digestive capacity is weak. In Germany there is no such thing as protein or casein indigestion. This is due to the fact that all milk is boiled before feeding. Boiling the milk helps a great deal, in that it softens the curds, making them flocculent and easier of digestion, like human milk. Further measures, such as putting the baby on barley water for twenty-four hours, and the addition of lime water to the mixture, and beginning with a weak formula, preferably skimmed milk, will help wonderfully in correcting this condition. Do not understand me to say that I favor boiling milk as a routine measure. I do not. When a baby suffers continuously from any form of indigestion, sooner or later it drifts into a state of malnutrition, then marasmus, and we have our hands full.

Briefly, I will report a case:

Case No. 1.—R. M., age three months, weight 8¾ pounds, was brought to me suffering from sugar and fat indigestion, with a beginning marasmus. He had been fed on various preparations, such as Eagle Brand condensed milk, Mellin's Food, Malted Milk, and even Dryco. He was anemic; his skin was flabby; he sucked his fingers all the time, practically. He cried and fretted most of the time, slept poorly and vomited after feeding. His abdomen was distended. The stools were frequent and thin, and contained much mucous; they were of a greenish color and acid in reaction. I found the heart, lungs, kidneys, nose, throat and ears, negative. At birth he weighed seven and one-half pounds.

It was not possible to get a wet nurse, so I undertook to feed him on modified cow's milk. I started him on a skimmed milk mixture, with a low sugar content, and lime water. The milk was boiled three minutes, feeding half the quantity that a child his age should take, keeping him satisfied between feedings with boiled water, to which I added one grain of saccharin to the quart. His general condition improved, and gradually I increased the different food elements, one at a time, until he was taking a normal amount. He began to increase in weight. At five months I added barley gruel (No. 1) to the mixture, and he gained steadily. Today, at nine months, he weighs fifteen pounds and fourteen ounces, stripped, before feeding. I might add, that he has gained six ounces each week for the past several weeks. I also put him on orange juice as soon as he could take it, which was at three and one-half months.

I believe that condensed milk has been and now is being used too extensively in feeding infants. In some cases it is indicated and very useful (when it is not possible to get fresh cow's milk, to tide over a rough place

after a serious illness, and occasionally in starting a difficult case of artificial feeding). Occasionally we see babies that have done well on it, but more often we see a different picture. Fortunately, condensed milk is being replaced by dried milk preparations, and better results are being obtained. It can be readily understood that if condensed milk is diluted sufficiently to reduce the sugar, the other food elements are reduced too much, thereby depriving the child of the necessary food values.

Proprietary foods occupy a more or less prominent place in infant feeding, but like condensed milk, their value has been and is now very much overestimated. I have seen recently two cases of beginning Rickets brought about by the use of condensed milk and Mellin's Food. There is nothing in condensed milk or in the proprietary foods, which can not be obtained in cow's milk, properly modified.

Colic in infants and children is a troublesome condition to treat. It is, as a rule, the result of improper feeding, I believe. This is the case particularly in the bottle-fed infants. I saw a two weeks' old baby with the colic a few days ago. It had been fed on condensed milk since birth. I put it on modified cow's milk and did not give it a dose of medicine, and it immediately recovered. If colic is due to lactose indigestion, Dextri-Maltose should be added to the formula, as it does not ferment so easily as sugar, and is more readily assimilated. Some babies have colic and still thrive, and their stools are normal. Some have weak digestive ability, due to keeping them too warm or too cold. It is important that the nurse should be instructed along this line.

In closing, I want to recite a few general rules:

(1) A careful history is necessary in all cases. It will show what the patient has had in the past, and what has agreed or disagreed with it. Previous formulas should be given due consideration, as hints may be had from them.

(2) Always tell the mother that it may require considerable time to correct the existing condition, and that she must be patient.

(3) The stools must be examined thoroughly and loose, undigested stools must be made normal before a satisfactory gain in weight may be secured.

(4) Don't get in a hurry. Be satisfied with a gain of three or four ounces a week.

(5) Don't change your formula too often.

(6) Always increase one food element at a time.

(7) Don't bother about calories too much.

(8) Use a high sugar food, if possible to do so without causing fermentation, never forgetting that a high protein and a low sugar diet will prevent fermentation.

(9) Use starch more in your feeding cases. You must have a definite plan in your mind and stick to it. A thorough knowledge of the chemistry of digestion will help wonderfully in both normal and abnormal feeding cases.

ABSTRACT OF DISCUSSION.

Dr. E. W. Loomis of Dallas: As Dr. Ferguson says, every infant must be fed according to its individuality. What is good for one baby certainly is not always good for another. I have found that the boiled milk mixture has given me better results in the beginning than the raw milk mixture. I believe that the boiled milk mixture, properly modified, the infant's weight, age and digestibility taken into consideration, will give better results than we will get by starting off directly on the raw mixture. The boiled milk mixture leaves the curds soft and flocculent, while the raw mixture, in many cases, particularly where the food is not properly modified, leaves the curd hard, so hard that it is at times impossible to mash it with the fingers. American pediatricians, I think, are not in favor of boiled milk mixtures. We boil our milk for two reasons only—one is to kill the bacteria, and the other is to aid digestion. I believe that most of the pediatricians are in favor of pasteurizing milk. It is one step further to boil it, and, certainly to my mind, better digestion results.

The argument against boiled milk is that boiling kills certain vital elements in the milk—vitamines, which are essential to the child's welfare. These can be supplied in the form of orange juice, beginning from the time the child is a few weeks of age, and continuing right through. I believe the boiled milk mixture should not be continued beyond sixty or ninety days, if it is possible to get away from it. Many babies will have to go right on through with boiled milk mixtures, until they are able to take other foods.

Dr. I. L. Van Zandt of Fort Worth: There are very few among you who can appreciate what has been accomplished by sanitation and study of feeding babies like I can. When I was a boy in medicine, I thought that a child whose mother didn't nurse it, unless it had a stomach equal to a pig, was sure to die. Later, that very condition stimulated me to study *medicine* in connection with the treatment of babies. While for nearly forty years I have been fairly successful in modifying cow's milk, I find some babies will get sick, and I need medicine to cure them.

Experience taught me to make my own classification of the ordinary bowel troubles of babies, each having a treatment peculiar to itself. The first, which is also earliest in life, comes in babies living almost if not entirely on milk. The stools are of varying shades of green, with a sour odor, frequently containing curds, and occasionally mucus. The buttocks become irritated if the trouble is not quickly controlled. This is due to the ferments of lactic and butyric acids, and sometimes oidium albicans. After stumbling over this for more than twenty years I discovered that sodium hyposulphite would change the green to yellow, coincidentally curing the disease. I generally give a grain or a little more for each year of age, with each nursing. Too much will only act as a laxative and perhaps cure more quickly. Sometimes I give an alkali in addition.

The second, sometimes called "summer complaint," generally occurs when the baby is on a mixed diet, sometimes earlier from pollution of the milk. In this the stools are large, watery (flowing readily through the napkin), and generally accompanied by a large amount of sulphuretted hydrogen, filling the house with the odor of rotten eggs. This is the product of proteid putrifaction. For this I give Pulv. Opii, gr. ½; Hydrg. Chlor. Mit., gr. i; Bismuth Subnit., dram, 1; Ol. Anisi, gtt. 2. One dose is given every three or more hours as needed.

When the interval extends over three hours, one should wait for another movement before giving the medicine again. This prescription dates from 1873, since which time I have never found anything "just as good."

The third is the dysenteric, with stools of blood and mucus, generally at short intervals, with much straining. My prescription for this I got from West on Dieases of Children, which was not a new book when the Civil War began. The author credited the combination to a physician attendant at the Milbank penitentiary in England. It is, Castor oil, dr. 2; Anise oil, drops 4; Tr. Opium, drops 8 to 16; Mucilage acacia, q. s. ounces 2.

One teaspoonfull every three or more hours, is the usual treatment. I generally use this alone. If the fecal part of the stool is green, I add sodium hyposulphite. If marked putridity exists, I add bismuth freely. Sometimes I have thought spirits of turpentine added to each dose was beneficial. Sometimes a gentle washing out of the bowel is very comforting and perhaps curative. The green, acid stools are a bar to the use of sugar, while the putrid condition is perhaps benefited by it. The studied use of the foregoing enables me to say that for more than sixteen years I have not lost a baby from bowel trouble, the care of which had been mine from the beginning.

THE CIRCULATORY, RESPIRATORY AND NERVOUS DISTURBANCES IN THE NEW BORN.*

BY

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The wording of my subject covers a little broader scope than was intended. My intention is to give a more definite idea of the problem and a more systematic approach to the treatment of that great number of serious clinical emergencies that occur during the first few weeks of the infant's life, which are characterized by cyanosis, collapse or convulsions, touching the differential diagnosis of the gross and more common situations, and making no effort toward an exhaustive discussion.

In classifying the etiology and discussing the diagnosis of these symptoms, it will be necessary to be more or less academic, but as the problem is one which comes first to the busy general practitioner, it seems practical to discuss it in a direct, every-day manner. Practically all cases presenting these disturbing and troublesome symptoms, will fall roughly under the following three heads:

(1) Congenital cardiac disease.
(2) Asphyxia of the new born.
(3) Cerebral hemorrhage of the new born.

Early determination of the diagnosis, and an equally early and exhaustive therapy, determines the degree of success to be met with in conducting these cases.

The congenital cardiac conditions are rather rare, and their diagnosis is difficult and requires careful study and observation. Text-books are not clear and there is a uniform tendency on the part of instructors to hurriedly pass over the subject, leaving the profession from the beginning untrained in these conditions. There are three distinct types of anomalies in the congenitally diseased heart. Defects in the septa are the most common, with anomalies of the valves and vessels next, and there are numerous hearts abnormal in size and position. Abbott[1], tabulating 631 cases that came to autopsy, found that the most common anomaly was a patent interauricular septum, with a patent interventricular septum and pulmonic stenosis about equally common. Usually, however, two or more defects occur in the same patient.

The general symptoms which aid in the diagnosis of congenital cardiac diseases are:

(1) Cyanosis soon after birth, sometimes extreme, but in other cases limited to the extremities or present only after excitement, getting worse after the ordinary methods of combatting asphyxia.

(2) The red blood cells are greatly increased, cases reported having reached ten to eleven millions, with an extraordinarily high hemoglobin.

(3) Dyspnoea and severe attacks of suffocation sometimes occur, the temperature is usually subnormal, and general nutrition impaired, but edema is rare.

(4) Many times there is no murmur, but when present it is usually loud, harsh and widely diffuse, associated with a precordial thrill.

A diagnosis is usually possible, based on these symptoms, although the determination of the lesion is a difficult and many times impossible matter. The prognosis in these cases is generally unfavorable. Many live but a few weeks, while a majority do not live to adult life. The prognosis is unfavorable in proportion to the degree of cyanosis, dyspnoea and palpitation. Infants born with intense cyanosis usually die early, though a better prognosis may be given if the cyanosis clears up in a few hours.

The treatment is purely symptomatic and is frequently without avail. Great care should be taken to prevent exposure to infection, and

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 9, 1923.

1. Osler and McRae: Modern Medicine, 1915, p. 342.

careful nursing to keep up the nutrition is essential Oxygen for the cyanosis, digitalis for the heart, and sedatives, all find a place in individual cases.

The asphyxias are dependent on a disturbance of the respiratory and circulatory mechanism, which interferes with the supply of oxygen. This may arise while the child is within the uterus, or may not occur until after birth. Congenital asphyxia is caused by a disturbance of the placental circulation, such as premature separation of the placenta, pressure on the cord, etc. The baby may be only slightly asphyctic, with a bluish color, or "asphyxia pallida" may be present, in which cases all reflexes and muscle tone have been lost, with only a faint heart action remaining. In the milder forms, the prognosis is favorable, but occasionally good results reward serious effort at reviving even the severest cases. These severe cases are, however, very often complicated by cerebral hemorrhage, and that makes the prognosis more grave.

Acquired asphyxia may occur any time after birth, and is usually some definite disturbance of the respiratory mechanism. Such a condition develops in the actual pulmonary diseases. In the thymic hypertrophy and in weak or premature infants, pulmonary atelectasis due to imperfect thoracic expansion, may be present. These cases occur usually soon after birth. Sudden asphyxia in a previously well baby, is usually an acute respiratory infection.

The symptoms of acquired asphyxia vary with the cause, but generally there are recurring collapses, with either very shallow or complete cessation of respiration. The skin is cyanotic and the temperature subnormal. When caused by acute infection, usually there is fever and cough, with retraction of the intercostal spaces. The treatment is stimulation of respiration, careful nursing, with particular attention to nutrition and body heat, and administration of oxygen for the cyanosis.

While both of the conditions just discussed are frequently encountered as causes of this group of symptoms, by far the greatest number are suffering from intercranial pressure, either a temporary disturbance from prolonged trauma, or a definite cerebral hemorrhage. The number of infantile deaths following intercranial hemorrhage is appalling. Deluca[2], analyzing 554 autopsies, found 36 per cent had varying degrees of cerebral hemorrhage, while Warwick[3], analyzing 200 fatal cases, in the first week of life, found 43 per cent with cerebral hemorrhage. In view of these astounding figures, it would seem that it is up to the medical profession to follow some line of treatment which will reduce this great mortality, and the more dreaded morbidity, in our new born.

Until a few years ago all cases of cerebral hemorrhage were considered traumatic in origin. Poor application of instruments, indiscreet use of pituitrin, or unfortunately prolonged labor, were the unquestioned etiological factors, and the burden of responsibility fell on the shoulders of the obstetrician. But recently more attention has been drawn to the hemorrhagic diseases of the new born, and many cases of intercranial bleeding are found to be symptoms of some general diseases.

In 1919 Warwick[4], noting the frequency of the history of asphyxia in cases of epilepsy and Little's disease, entered upon a research that gave conclusive proof that cerebral hemorrhage is caused by intercranial congestion, *per se*, and following that work Warwick gave us our most comprehensive grouping of the etiology of cerebral hemorrhage. He suggests that all cases of intercranial hemorrhage can be accounted for under the following heads:

(1) Trauma. — Instrumental deliveries; indiscreet use of pituitrin; precipate or prolonged labor.

(2) Cerebral Congestion.—Any condition causing an increase in the vascular tension within the cranium.

(3) Hemorrhagic diseases of the new born, including prematurity.

The diagnosis of cerebral hemorrhage is sometimes a real problem. The general symptoms of convulsions, cyanosis and respiratory distress, always draw attention in that direction, and these, associated with a history of trauma or asphyxia, and a bulging fontanel, furnish the typical textbook picture, and these cases are practically always diagnosed. However, the typical case is always a late stage condition, and it is early diagnosis that reduces the mortality. Prophylaxis of cerebral involvement seems so important that I have adopted the following rule of practice:

(1) All cases of severe trauma, with or without asphyxia, are considered potential cerebral hemorrhage.

(2) All cases of asphyxia and cyanosis from whatever etiology, are studied from the standpoint of possible cerebral hemorrhage.

(3) General hemorrhagic tendencies and

2. Deluca, F. A.: Jaundice in the New-Born; Abst. J. A. M. A., 78; 766 (March 10), 1922.
3. Warwick, M.: Necropsy Fingings in New-Born Infants; Am. Jour. of Dis. of Child., 21; 448 (May), 1921.
4. Warwick, M.: Necropsy Findings in New Born; Abst. J. A. M. A., 78; 766 (March 10), 1922.

severe jaundice are recognized as most dangerous prodromata of cerebral bleeding.

(4) The blood coagulation time is determined in all of these potential hemorrhages, and treatment is instituted accordingly.

The normal coagulation time of the human blood varies between five and twelve minutes, with eight minutes forming the outer limit of comfort in a case of potential intercranial disturbance, and any case the history of which is suggestive of hemorrhage and in which the coagulation time is as long as eight minutes, is entitled to systematic effort toward improving that feature.

The well-conducted case of cerebral hemorrhage must be approached from three distinct angles, each requiring *finesse* of judgment and individual case. First of all, the hemorrhage must be controlled, then the nervous distress must be stopped by sedatives or relief of pressure and, finally, the nutrition must be kept up.

My experience has been that whatever success I have had in controlling the hemorrhage has depended largely on early diagnosis and prompt and vigorous application of the therapeutic measures at my command. Once I am convinced that an infant is entitled to treatment, the following routine is instituted:

(1) Subcutaneous injection of either maternal or paternal whole blood, at least every six hours. From twelve to fifteen c.c. are given at each injection. With careful technique, troublesome hematomata are easily avoided.

(2) Hemostatic serum is injected subcutaneously every three to four hours, using ½ c.c., diluted with an equal amount of water.

(3) A check on the coagulation time of the blood is made twice daily, and the treatment is guided solely by progress in that particular.

Direct transfusion is impractical in these infants, because the only medium of injection is the longitudinal sinus, and as we already have increased the intercranial pressure, that procedure would merely add to our problem. The use of the umbilical vein, recently described by Sidbury[5], may prove practical, while the intraperitoneal injection of citrated blood offers a simple and very satisfactory way to replenish lost blood. Its influence on coagulation has not been proven sufficiently.

Relief of the nervous symptoms must be gained if success in controlling the hemorrhage is to be achieved. While lumbar puncture is the greatest single therapeutic measure, it is exceedingly dangerous, and it is poor practice to drain off the cerebral spinal fluid until further progress of the hemorrhage has been checked. There are cases, however, where the convulsions are so severe, and the respiratory distress is so great, that emergency lumbar puncture is indicated. As a general routine, I proceed as follows:

(1) Chloral hydrate and sodium bromide are given every two hours, by the rectum, the dose varying with the severity of the symptoms.

(2) Opium is used guardedly, because of respiratory depression.

(3) Lumbar puncture is done at the earliest moment compatible with the hemorrhagic condition. This is repeated as often as indicated by the symptoms. The use of a spinal manometer, as described by Munro and Eustis[6], is considered hardly practical outside of a children's hospital.

(4) Ventricular puncture is used in cases where hydrocephalus is evident and no relief is obtained by lumbar puncture.

(5) Subtemporal decompression has been used, but my personal experience has been limited and reports of surgical relief have not been encouraging

The third, and from a mortality standpoint probably the most important, phase of the systematic care of these unfortunate babies, is the nutrition problem. It is generally realized that most cases of death in the group of cases under consideration follow respiratory depression. Experience shows, however, that depression is only a minor cause of the respiratory problem.

All of these cases, whether of the cardiac, asphyctic or hemorrhagic group, are distressingly weak. In most cases the swallowing reflex is lost and fluid collecting in the pharynx remains uncared for, and as sufficient quantity accumulates tracheal obstruction results. The baby, going into deep cyanosis, literally drowns itself.

These babies are no more able to combat the problems of life than the ordinary premature infant, and so my general care follows my routine in the care of the premature baby, as follows:

(1) Breast milk is recognized not only as preferable but almost essential.

(2) All fluids are given by the stomach tube until the swallowing reflex is well established. The medicine dropper has no place. I go from gavage to the use of the Breck feeder.

(3) The nurse is carefully instructed to withdraw any fluid that accumulates in the pharynx, either from regurgitation or normal secretion. An ordinary catheter is very satisfactory for this purpose.

(4) Gavage is done every two hours,

5. Sidbury, J. Buren: Transfusion Through the Umbilical Vein in Hemorrhage of the New-Born; Am. Jour. Dis. of Child., 25; 290 (April, 1923).

6. Munro, Donald, and Eustis, Richard S.: The Diagnosis and Treatment of Intracranial Hemorrhage of the New-Born; Am. Jour. Dis. of Child., 24; 273 (October, 1922).

using diluted breast milk, as the condition of the child indicates.

(5) Lavage is done twice daily.

The routine in these cases may seem elementary to many, but I feel that it is the careful watching of the minor details that will turn the tide in many cases, and repetition of those important features will certainly do no harm.

SUMMARY.

(1) All cases of trauma, cyanosis, convulsions or collapse, within the first few weeks of the infant's life, must be considered potential cerebral hemorrhage.

(2) All cases of potential cerebral hemorrhage, with prolonged blood coagulation time, call for systematic hemostatic therapy.

(3) Lumbar puncture, used guardedly, is the most valuable single measure for control of the respiratory and nervous symptoms.

(4) Feeding of breast milk by gavage, is important in the solution of the nutrition problem.

(5) Many cases of fatal asphyxia may be avoided by careful removal of fluid collected in the pharynx.

ABSTRACT OF DISCUSSION.

Dr. Harry Leigh: Asphyxiation in the new born is undoubtedly one of the bugaboos of the obstetrician. I agree with the author that cyanosis is one of the most important factors in determining prognosis of the child. Spinal punctures should not be made until hemorrhages have been checked.

As to the treatment, aside from the medical, nutrition is the most important thing. I think we often disturb the patient too much by too frequent feeding. I rarely feed oftener than every three hours. I hardly ever dilute breast milk. I think most children will take the milk straight.

OVARIAN CYSTS IN CHILDREN.*

BY

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Frequent and timely have been the written warnings of appendicitis in young children. These warnings have produced good results. Today such conditions are much more rarely overlooked than formerly was the case. A condition much less commonly encountered in children, but still not of such great rarity, is the ovarian cyst. To call attention to the importance of considering this disease in the diagnosis of any case of indefinite abdominal pain occurring in little girls, is the purpose of this communication.

The occurrence of ovarian cysts in children, while uncommon, is no new thing in gynecology. It has long been known that ovarian cysts may occur at any age. Doran has described cysts in the ovaries of the foetus. In the older literature, Sutton analyzed sixty cases of ovarian cysts which occurred in patients under 15 years of age. He found twenty-three dermoids, sixteen sarcomata and sixteen simple cysts. Out of 1,753 ovarian cysts reported by Olshausen sixty-one occurred in children under ten years of age. In the more recent literature Smith and Motley, reporting a case of sarcoma of the ovary in a three-year old child have very comprehensively reviewed forty-seven tumors of the ovary in children. Of these, ten were cysts. In all of the several series of these cases which have been reported, there is striking uniformity in the high percentage of malignancies. This bears out what has long been held, that tumors occurring in the ovaries before and after the period of physiologic activity of these organs, are very frequently malignant.

The symptoms of ovarian cyst in a child are naturally obscure. Abdominal pain may be the only symptom. The older the child, and the nearer the beginning of menstruation, the more likely will a more or less definite periodicity become recognizable in the recurrence of this pain. Cramp-like pain felt in the lower part of the abdomen, unassociated with gastro-intestinal or urologic symptoms, in a little girl, should suggest this condition. In girls past puberty, menstrual irregularities might be leading symptoms.

Except in unusually large cysts, very little aid can be expected from physical examination. However, much valuable information can sometimes be elicited by making the combined rectal and abdominal examination. As any rectal manipulation upon a young child practically always produces an uncontrollable spasm of the abdominal muscles, it may be necessary to resort to brief nitrous oxide-oxygen anesthesia. In this way much doubt can be dispelled.

The cyst may give no symptoms whatsoever and its presence be unsuspected until there occurs torsion of the pedicle, with resulting gangrene. Then the clinical picture becomes that of the "acute surgical abdomen," so definite, so ominous and so unmistakably plain in its indications.

It is not within the scope of this paper to enter into a detailed, differential diagnosis of the conditions which the pain from an ovarian cyst in a little child might simulate. "Colic" from indigestion; colic from intestinal obstruction; appendicitis; non-appendiceal peritonitis; tuberculous peritonitis; acute inflammation of mesenteric or retroperitoneal lymph nodes; the referred abdominal pain from tuberculous spondylitis; pericarditis or pneumonia, and the less frequent

*Read before the Section on Gynecology and Obstetrics, State Medical Association of Texas, Fort Worth, May 10, 1923.

sarcoma of the abdominal organs, constitute the galaxy of diseases which must be passed in review mentally whenever we meet abdominal pain in a child. (Brennemann, *Surg., Gynecol. and Obstet.*, March, 1922.)

CASE REPORT.

Case No. 1.—C. M. K., female, age 6. Four days before admission to the hospital, the child began complaining of a pain in the abdomen. She had not had any gastro-intestinal disorders in the recent past. The only serious illness she had formerly had was acute bronchitis, followed by acute suppurative otitis media, two years before. Attacks of colicky pains in the abdomen had not been present in the past.

The child's description of her condition was, "my stomach hurts," and she pointed to the left lower quadrant of the abdomen when asked to show where the pain was. She persistently claimed that the pain did not extend upward toward the chest, or to the right right side of the umbilicus. There was no vesical irritability. She said she didn't want to eat. However, vomiting occurred only once, and then it seemed to have been precipitated by a dose of castor oil administered by the mother on her own initiative. The temperature varied between 99.8° and 100.2° (F). The pulse was 100. The respiratory rate was 20. The bowels had moved every day, and the movements were normal in character and consistency.

Physical Examination: The patient, a well-developed and well nourished little girl of six years, lay quietly in bed and did not appear to be suffering any pain. There was no tendency to flex the thighs or to lie in any certain position. There were no signs of any abnormalities in the heart or lungs. Breathing was free and easy.

Abdominal examination showed no tendency to rigidity of the muscles, even during deep palpation. No masses were palpable and there was no definitely localized tenderness. However, the left lower quadrant was considerably more tender than the right.

Rectal examination was unsatisfactory, on account of the child's nervousness and the resulting muscular rigidity.

The urine, from a 24-hour specimen, showed no abnormalities at any of the several examinations. There were 11,000 leucocytes, with 70 per cent polymorphonuclear cells.

With the bowels moving normally, thus ruling out any obstruction, and with an absolute absence of rigidity and tenderness over the appendiceal region, the physicians in charge felt justified in "watchful waiting." No signs were present which might suggest a left-sided position of the appendix.

The clinical picture remained unchanged until the third day. At this time the abdomen became slightly distended. Tenderness was more marked, though still not localized. With these unfavorable changes, operation was deemed necessary.

Operation: On opening the abdomen, the peritoneum was found to contain a small amount of slightly cloudy fluid, definitely blood-stained. The small intestine was considerably distended. No inflammatory exudate was noted. The distension of the intestine appeared to be caused by the intestine having been forced through recently made openings in the omentum, the omentum being held in a fixed position by something anchoring its lower edge in the pelvis. These adhesions were found to be posterior to the adnexa on the left side. When these were loosened, the constricting effect of the omentum upon the intestine above was relieved.

Pelvic exploration revealed a mass about the size of a lemon on the left side. This was gangrenous and already becoming necrotic in parts. It was found to be an ovarian cyst, the pedicle of which had became twisted (four times), strangulating the Fallopian tube as well as the ovary. The appendix was normal. The strangulated mass was removed and the abdomen closed, as usual. Two cigarette drains were used.

The patient progressed through a normal convalescence, without untoward events, and is now entirely well.

ANOXEMIA DURING ANESTHESIA.*

BY

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No matter how carefully asphyxial phenomena are watched, some patients under any anesthetic will become anoxemic. I have on a few occasions met with respiratory difficulties resulting in varying degrees of anoxemia, which, though fortunately, so far, have been only transient, were alarming enough to me to make the few seconds they lasted seem like ages.

Many patients reach our service who tolerate a decreased oxygenation, while there are others who are intolerant to the slightest decrease in oxygenation. The element of air most important to man is oxygen. He has adapted himself to almost twenty-one per cent, and does best when the air contains that proportion. If the air contains seventeen per cent of oxygen, he will breathe faster and a little deeper, about the same as when he goes from sea level to an elevation of 5,000 feet. When the oxygen is still further decreased, he becomes dizzy, notices a buzzing in the ears, rapid heart action, frequently headaches, and at lower concentration than 10 per cent consciousness may be lost.

If oxygen, then, is of such vital importance, we can readily understand how any anesthetic vapor, with operative procedures that lower the vitality, might cause a patient to become cyanotic from suboxidation, though we may be carefully and constantly observing the patient and correctly interpret each phenomenon incident to narcosis. The breathing and the capillary circulation must be watched cautiously. Irregular breathing may herald vomiting, or the more serious condition of ventricular fibrillation.

At the Texarkana Sanitarium, where I have given anesthetics for many years, the surgeons do not begin operating until the respirations are regular, the lung ventilated sufficiently to keep the patient pink, the ocular signs indicate that the proper degree of narcosis is reached and the medullary centers not overdosed (which would be revealed by gradual failure of respiration, dilated pupils, depending on the amount of preliminary medication, with loss of light reflex). Respiration may

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be hampered by posture, pressure due to assistants leaning on the chest, tight bandaging, absence of teeth—especially if nasal stenosis exists, morbid growth, swelling (whether glandular or not), lymphatism (where adenoids and hypertrophied tonsils, associated with enlarged cervical glands, exists), trauma from manipulative measures and depression upon the hyoid bone. Depression of the hyoid bone from any cause whatever, creates a depression of the larynx and partly or entirely prevents air from entering or leaving the lungs. When no air, or an amount less than required, is entering the aeveoli, cyanosis follows—for instance, when a mouth gag, or tongue depressor causes too much depression of the hyoid bone. There are other factors that cause the efferent blood to become darker under anesthesia, such as paralysis of the respiratory centers and a pronounced fall in blood pressure, leading to the transformation of oxyhemoglobin into methemoglobin (hemoglobin from decomposed blood).

Morris of London, made a study to determine, first the variations in the oxygen content of the blood in varying degrees of interference with pulmonary ventilation; second, to ascertain to what extent the oxygen content of arterial blood might be decreased without marked interference with the process of oxidation in the tissues, and third, to study the influence of oxygen administration in cases of interferences with pulmonary ventilation.

The experiments were performed on cats under a constant degree of anesthesia. Blood was drawn simultaneously from the left carotid artery and left jugular vein, before and after asphyxia of varying degrees had been induced. The results show that up to a certain degree of asphyxia, the amount of oxygen in the arterial blood exceeds that in the venous. The head of oxygen varies within wide limits. When asphyxia becomes more intense, the percentage of oxygen saturation in the arteries begins to fall more rapidly than in the veins, and in extreme asphyxia the venous blood contains a higher percentage of oxygen than does the arterial. So we learn that arterial and venous oxygen contents do not run parallel, as has been maintained by some observers.

Any displacement of oxygen of the respiratory air by addition of the vapors of the anesthetic, will further reduce the ratio between supply and demand, and the point of oxygen deficiency will be more nearly approached. An anesthetic given in an excessively concentrated vapor, or kept at the same level throughout a prolonged operation, will effect the blood gases, producing a deficiency in oxygen and an excess in carbon-dioxid.

Two other important factors bear directly on the oxygen supply and demand in general anesthesia, namely, the vital capacity of the lungs and the rate of metabolism. If the vital capacity of the lungs is reduced, the oxygen supply is diminished, and of the rate of metabolism is increased, the demand of the body chemistry for oxygen proportionately encroaches on the available supply, the anesthetic vapors will further reduce the ratio between supply and demand. A knowledge of the vital capacity of the lungs and the rate of basal metabolism is necessary to a proper selection of cases for anesthesia in hyperthyroidism, and is of value in selecting the opportune time for operative measures.

The surgeon and anesthetist should never forget for one moment that all anesthetics and all manipulation may affect the heart, while a lack of oxygen induces a series of changes in cardiac rhythm and suppression of auricular contractions. In short, anoxemia produces cardiovascular failure when compensation ceases. The last word has not been spoken in relation to the heart and cardiac pathology regarding anesthesia and anoxemia.

MISCELLANEOUS

IN APPRECIATION OF THE PHYSICIAN.

Commenting upon a news item to the effect that a physician had been found by the side of a country road, dead, in a wrecked automobile, the *San Antonio Light* comments very pertinently and appreciatively, as follows:

"What humanity owes to the man with the little black satchel—contents, labeled vials or shiny queer instruments—is a story that has never been even half told. It cannot be fully told; partly because he alone knows the character and circumstances of his adventures, and he will not appraise them; but more largely because the value of his services is immeasurable by commonly employed human standards.

"When his patients are in good health they associate him with trouble. When they are in trouble they are thinking mostly of themselves, and their capacity for objective appraisement is below normal.

"The call comes. It may be when the noon meal is just ready or when it is half consumed. It may be at bedtime, at the end of a long day of high-pressure labor. Or it may be in the middle of the night, when aching muscles and overtaxed nerves are crying for relaxation; when pulses are low and the will is at ebb tide.

"Yet, day or night, summer of winter, rain or shine, physically disposed or indisposed, he picks up the little black satchel, his constant companion, and responds to the call. For it is a call of distress.

"Over all roads he travels, be they good or bad. Ruts and rocks or mud and mire lie in his path. Very well; what time is it? To get there—that is his immediate task; and then to minister, out of his store of scientific knowledge and human sympathy, out of his little black satchel, to the one at the end of his

hurried journey, the one who depends upon him, and him alone, for restoration to health or rescue from death. He may ride, he may walk; he may drive a monster on wheels, or a rattletrap, spasmodic flivver; he may ride in an old-fashioned buggy, or jog or gallop, with saddlebags bouncing and flapping at his legs.

"However he goes, he gets there—over paved highways, if fortune so decrees, or through the brush along a dim trail, or across swollen streams into which others dare not venture, if fate so marks out his course. The sun may blister his face, or the frost bite his ears and extreme cold almost paralyze his hands and feet. He keeps his purpose fixed on the end of the road.

"Arriving at his destination, he goes methodically about the performance of his mission. The patient may need only such attention as any calm member of the family might have given, or none at all save a word of assurance; it is not the business of the man with the little black satchel to complain of human frailties, but to correct them if he can. Or it may be that Death lurks nearby, avidly awaiting an opportunity to strike. Then, out of his storehouse of scientific knowledge and experience, out of his labeled vials, out of his wealth of sympathetic understanding, the man with the little black satchel takes whatever may be necessary to drive the lurking image from the scene and into the dimness of the indefinite future.

"If failure is his lot, he takes whatever blame the bystanders or the gossips may lay at his door—takes it silently, with no gesture of self-defense.

"And mayhap, whether he has been called needlessly, or has snatched a life from the reach of Death, or his efforts have been in vain, monetary compensation may be denied him. The patient, recovered, may be ungrateful, or downright dishonest, or a sudden convert to the idea that he is the special ward of a kind Providence. Or, if there is a funeral, the erstwhile patient's surviving relatives may ascribe his death to the alleged incompetence of the attending physician in particular or of medical science in general.

"Still, the man with the little black satchel goes on, answering calls that come when the noon meal is just ready or half consumed, and calls that come at bedtime, at the end of a day of high-pressure labor, and calls that awaken him in the middle of the night, when pulses are low and the will is at ebb time—summer or winter, rain or shine, over good roads or bad, ministering to the needs of those in distress, even though he himself be ill. Uncomplainingly, oftentimes without compensation, always with a sense of duty that knows no reservations, the man with the little black satchel lives his near-sublime career.

"And sometimes, beside a country road a few miles north, south, east or west of some town—a road that leads to a scene of suffering or of causeless fear—his lifeless body is found in the wreck of an automobile that was headed in the direction of "professional duty."

JUNE EXAMINATIONS STATE BOARD MEDICAL EXAMINERS.

The June examinations conducted by the Texas State Board of Medical Examiners, are reported perhaps the best from the standpoint of results within the history of the present Medical Practice Act. There were 67 graduates to come before the Board, representing the University of Texas, Baylor University, Jefferson Medical College, Meharry Medical College, University of Virginia, Mexican National University, Tulane University, University of Budapest and American School of Osteopathy. There was not a single failure in this number. The average grade was 85 per cent and the highest, made by Dr. Cossette Faust Newton of Dallas, was 92.1 per cent. The list of graduate examinees follows:

Name.	County.
Elmo Alexander	Bosque
Chas. Edward Ball	Tarrant
John Lacy Barnett	Nacogdoches
George Emmett Bethel	Dallas
Jerome Calloway Bradford	Dallas
Wm. Porter Brown	McLennan
Nina Fay Calhoun	Galveston
Thomas J. Calhoun	Galveston
Leroy Merrell Cochran	Dallas
Bailey Reeves Collins	Wichita
Durwood Leigh Dodd	Dallas
Louis Fowler Dodd	Bexar
Charles Arthur Dudley, Jr.	Harrison
George William N. Eggers	Galveston
Helmuth Jack Ehlers	Fayette
George R. Enloe	Jefferson
Frederick Fink	Comal
Juan J. Galan, Jr.	Maverick
Arthur Glecker	Fayette
Culver McFerrin Griswold	Donley
Alfred John Hackfield	Harris
Neal Hall	Potter
Chris R. Halloran	Jefferson
Johnny Huggins Harris	Galveston
Davis Scott Hammond	Lamar
Wm. Howard Heck	Lee
Lewis Benedict Holland	Dallas
Henry Ragnet Hoskins	Bexar
Hermann Otto Hodde	Washington
Robert Ellsworth Holland	Harris
Joseph Thomas Jones	Harris
Elverse M. Jordan	Galveston
Leona J. Kasten	DeWitt
Thomas Chaille Lynch	Hopkins
Francisco L. Lira	Mexico
Lloyd C. McAnally	San Patricio
Thomas Dodson McCrummen	Travis
Archibald Stuart McNeill, Jr.	Orange
Bessie Evelyn Mayo	Bell
Elliott Mendenhall	Dallas
George William Moore	Bell
James E. Morrison	Young
Jose Sanchez Naranjo	Webb
Asa Armstrong Newsom	Dallas
Cosette Faust Newton	Dallas
Walter Samuel Parks	Harris
Dewey William Peace	Dallas
Lee Tinkle Pruit	Cherokee
Nathan Prujansky	Galveston
Paul A. Rogers	Dallas
Joseph R. Rozsavoelgyi	DeWitt
Clarence Benjamin Sacher	Dallas
George Wallace Sansom	McLennan
George Terrell Singleton	Dallas
William Asbury Smith	Galveston
William T. Smith	Bell
Thomas Clyde Strickland	Dallas
Clifford Gibson Swift	McLennan
Carl Brock Tittle	Franklin
Guy Amsden Tittle	Franklin
Wendell P. Ward	McLennan
Hugh Clayton Welch	Haskell
Cleburne Milton Williamson	Bexar
Ira Clay Wolfe	Dallas
Joseph Wolfe	Dallas
Fleta Gertrude Woolsey	Hill
William Jinkens Woolsey	Hill

This examination was the first opportunity presented the Board to try out the new split examination plan, provided by amendment during the regular session of the present Legislature. The secretary of the Board reports that the innovation was particularly

gratifying, and he anticipates that the plan will prove immensely beneficial in the future, in that it permits the sophomores in reputable medical colleges to unload the strictly technical branches and relieve their minds of the burden, freeing them for the accumulation and digestion of the more practical factors in medical education, upon which final examination will be held, prior to licensure. There was not a single failure among these. The average grade was 87.5 per cent. The highest grade, 93 per cent, was made by Mr. W. E. Williamson of Cooper, Texas. The following took this partial examination:

Andrews, A. J., Dallas	Baylor
Bumpas, Stewart R., Dallas	Baylor
Collier, Roy N., Hutto	Texas
Collins, C. T., Waco	Baylor
Glass, T. G., Marlin	Texas
Hawkins, Hugh T., Dallas	Baylor
Henslee, Roy H., Merit	Baylor
Jones, Chas. B., Wellington	Baylor
King, Karl B., Abilene	Texas
King, Kash, Abilene	Texas
Maxwell, W. J., Jr., Austin	Texas
Poindexter, Cary A., Galveston	Texas
Rosenblatt, Wm., Dallas	Baylor
Schulkey, Wm. E., Decatur	Baylor
Shields, Allan, Victoria	Texas
Standifer, L. E., Vernon	Texas
Williamson, Wm. E., Cooper	Baylor

The secretary of the State Board announces that 57 licenses on a reciprocal basis have been issued since November 15, of which 5 were to osteopaths. Of the applications for reciprocal license, 8 were rejected. It seems that the percentage of licenses issued on this basis is rapidly decreasing, the number issued during the period just referred to being approximately 50 per cent of the number issued for the same period a year or two ago.

The following are the questions propounded during the June examinations, above referred to:

Anatomy.
(R. R. Norwood.)

1.—Describe the sternum; give its articulations and the important muscles attached to it.

2.—Name the bones that form the ankle joint, and give their relations.

3.—Give the origin, insertion, action and nerve supply of the humeral biceps muscle.

4.—Name the muscles attached to the great trochanter of the femur.

5.—Give the origin of the pneumogastric nerve, and name its important branches.

6.—Name the nerves of the eyeball.

7.—Give the blood and the nerve supply of the tonsils.

8.—Trace the saphenous veins from their formation to their place of emptying.

9.—Describe the vermiform appendix, location, structure, shape and size.

10.—Describe and locate the prostate gland.

Bacteriology.
(O. R. Grogan.)

1.—Discuss the reliability of the following tests: Widal, for typhoid; Wassermann, for syphilis; Von Pirquet, for tuberculosis.

2.—On what theory is tetanus antitoxin administered?

3.—Give the bacteriology of syphilis.

4.—How would you demonstrate the presence of *Amoeba coli* in a case of amoebic dysentery?

5.—Describe (a) the diphtheria organism, (b) its characteristics, and (c) give method for detecting diphtheria carriers.

6.—What is the principle underlying the Pasteur method of treatment of an individual who has bee bitten by a mad dog?

7.—What do you understand by immunity? Ho is it produced?

8.—Differentiate morphologically the followin micro-organisms: diphtheria bacillus and typhoi bacillus; gonococci and diplococcus meningitidis in tracellularis.

9.—How does antitoxin differ from vaccine?

10.—What is a pure culture? Name five cultur media in common use.

Chemistry.
(O. R. Grogan.)

1.—What is hemoglobin? State some of its chie properties.

2.—What metallic chemical substances are foun in the body?

3.—How may occult blood be detected in the feces?

4.—Explain the terms anhydrous, deliquescent an efflorescent.

5.—What are the characteristics of the acidulous elements?

6.—What is ptyalin? Explain its action.

7.—What are the general properties of proteins?

8.—Why is salt of mercury incompatible with KI?

9.—What elements are the most common constituents of organic matter?

10.—Give a test for (a) glucose in the urine, (b) uric acid in the urine.

Physical Diagnosis.
(S. L. Mayo.)

1.—Define hydronephrosis, and state its causes.

2.—Make a differential diagnosis between renal colic and hepatic colic.

3.—Give the physical signs of the second stage of acute lobar pneumonia.

4.—Make a diagnosis of locomotor ataxia.

5.—What are the clinical features of cerebro-spinal meningitis?

6.—Diagnose a case of scarlet fever, of measles, and of varioloid.

7.—Diagnose a case of rickets.

8.—Differentiate between apoplexy and uremic coma.

9.—Give the value and the technique for exploratory pleural puncture.

10.—What are the symptoms of gastric ulcer?

Gynecology.
(W. L. Crosthwait.)

1.—Describe a case in which you would recommend vaginal hysterectomy, and tell why.

2.—State (a) the idiopathic or congenital causes, and (b) the acquired causes of sterility in the female.

3.—State the signs, symptoms and differential diagnosis, of an early case of carcinoma of the cervix.

4.—Give symptoms, differential diagnosis and the management of acute gonorrhoea of the fallopian tubes.

5.—Give symptomatology, differential diagnosis and management of right-sided pyelitis in a woman.

6.—Differentiate between acute appendicitis and cyst of the right ovary, with twisted pedicle producing strangulation.

7.—Describe the different types of degeneration of myomata of the uterus.

8.—Give the approximate normal position of the uterus, and tell how it is maintained in such position.

9.—What is meant by pathological retroversion of the uterus; give causes and differential diagnosis of same, and outline a method for its correction.

10.—What is cystocele? What are its causes, and what procedure would you advise for its relief?

Histology.
(J. F. Bailey.)

1.—Name the structure found in red bone marrow.

2.—Explain the difference between the mucosa of the endometrium and that of the vaginal portion of the cervix uteri.

3.—Give the structure of the tonsil.

4.—Describe the histological structure of the liver.

5.—Explain the difference between the white and the gray matter of the brain.

6.—What are terminal arteries? Name organs which are so supplied.

7.—Describe protoplasm. Does it possess structures?

8.—Describe cartilage and name the varieties.

9.—Name three types of epithelium and give the location of each.

10.—Give the histological structure of the walls of the stomach.

Hygiene.
(H. C. Morrow.)

1.—Having a furnished residence to disinfect for pathogenic bacteria and verminous insects, how would you proceed?

2.—How soon after the slaughter of an animal should the meat be used? Give reasons for your decision, based on the state of the meat when slaughtered and afterward.

3.—Give tests for the adulteration of milk with (a) formaldehyde, (b) benzoic acid, (c) sugar and (d) starch.

4.—Give maximum and minimum normal percentages of carbon dioxide in the atmosphere of a living room.

5.—Give a hypothetical analysis for river water polluted with organic matter.

6.—State the deleterious effects of dust on the human body. Give the principal components, organic and inorganic, of house dust and of street dust.

7.—What are the essential features of good ventilation; how would you provide for them in a residence, and in a hotel or other public buildings?

8.—What are the dangers of municipal swimming pools? How would you prevent them?

9.—What is the difference between fermentation and putrefaction? How would you determine the presence of each in foods?

10.—What diet would you advise in order to prevent the development of pellagra?

Medical Jurisprudence.
(M. E. Daniel.)

1.—Define medical jurisprudence, and name the classes into which its practice may be divided.

2.—Discuss the medico-legal importance of feigned diseases and injuries.

3.—Discuss the Bertillion system of identification.

4.—What is the hydrostatic test? Give its medico-legal significance in connection with suspected infanticide.

5.—What are the sources of air emboli, and how may they cause death?

6.—Differentiate post-mortem findings in death from choke-damp, carbonic oxide gas and sewer gas.

7.—Define illusion, hallucination and delusion. What is a lucid interval, and what is its medico-legal importance?

8.—Give diagnosis of a case of carbolic acid poisoning. How would you manage such a case?

9.—What evidence would lead you to suspect death was due to lightning?

10.—Differentiate between animal and human blood.

Obstetrics.
(J. M. Watkins)

1.—Give the technique of cephalic version; illustrate a case in which you would do an external cephalic version.

2.—Discuss several conditions of the mother in which you would terminate labor, and give technique.

3.—Name several conditions that would cause a blue baby, and give management of same.

4.—What physiological changes take place in the maternal organism as the result of pregnancy?

5.—In a case of dry birth, with unyielding os, how would you facilitate labor with the least injury to the mother?

6.—What precautions should be taken in a case of organic heart disease during the latter months of pregnancy?

7.—Describe the formation and the function of the placenta.

8.—What is phlegmasia alba dolens? What are its causes and how should it be managed?

9.—Diagnose the death of a foetus in the early months of gestation.

10.—What general instructions would you leave for the care of the mother and the child during the first week?

Pathology.
(J. F. Bailey.)

1.—Mention the conditions of the kidneys that may be brought about by tuberculosis.

2.—Describe the modes of formation and the appearances of typhoid and of tubercular ulcers of the intestines.

3.—Describe the formation of an acute abscess.

4.—State the pathology of fibrous, or lobar pneumonia.

5.—Describe the pathological conditions in meningitis.

6.—Describe the difference in the pathological changes that take place in degeneration of tissue and those that take place in atrophy.

7.—What variety of malignant growths usually take place in bony tissue? State why.

8.—Describe the condition present in acute dilatation of the heart.

9.—What pathological conditions are found in acute catarrhal dysentery?

10.—Give the pathology of trachoma.

Physiology.
(G. H. Sandefer.)

1.—Name, in order, and give the functions of the glands of the digestive tract.

2.—How does impairment of function of the kidneys affect the lungs and the skin?

3.—Name, in order of importance, the avenues through which the heat of the body is lost.

4.—How do the products of digestion find their way into the body?

5.—Give the function of the liver, spleen and thyroid gland.

6.—What is blood pressure, and what are the normal variations?

7.—State the functions of the anterior and the posterior spinal nerves. How many pairs are there?

8.—Give three examples of enzymes, and state the function of each.

9.—Give the functions of gastric juice; also bile.

10.—What are the principal uses of water when taken into the body?

Surgery.
(John T. Moore.)

1.—Define a carbuncle. How would you manage one?

2.—Give in detail a method for the production of spinal anesthesia.

3.—Name the two incisions commonly made in operation for acute appendicitis.

4.—Give in detail the operation for umbilical hernia.

5.—Describe the exposure and the tying of the femoral artery in Hunter's canal.

6.—Give the method of reduction and management of Colle's fracture.

7.—Give the surgical care of an old man with intracapsular fracture of the hip.

8.—The foot and ankle are crushed, requiring amputation. Describe site and say how you would do the operation.

9.—Give the diagnosis and the surgical management of a case of acute osteomyelitis of the femur.

10.—Give in detail the surgical care of a left empyema.

CONTROLLING MALARIA AT LOW COST.

To determine whether a small city, a town, or a rural area could be protected against malaria at a cost which the local population could afford, the International Health Board began in 1916, in co-operation with state and federal authorities, a series of demonstrations in small towns in Arkansas and Mississippi. The net result of these experiments was so encouraging, that for the season of 1920 widespread demonstrations were begun under the joint auspices of the local governments, state health departments, the United States Public Health Service, and the International Health Board. The program for 1922 included 34 countywide malaria control demonstrations and 32 town demonstrations in ten states. All the demonstrations have afforded cumulative proof that under normal conditions an average community can practically rid itself of malaria at a per capita cost of 45 cents to $1 per year. In addition, the Board conducted experiments in mosquito control by use of fish and by screening under a variety of conditions, and tested the curative and protective possibilities of quinine.

HOOKWORM DISEASE AS AN EDUCATOR.

The relief of a disabling malady prevalent throughout areas inhabited by nine hundred million people of the world, is sufficiently important in itself. But the control of hookworm infection has another and even more significant value. It is an effective means of educating people in the meaning of public health work and of persuading them to support more comprehensive measures for preventing other diseases as well. For the facts about hookworm disease are fairly simple and easy to understand. . . . . Experience with antihookworm campaigns in many countries has proved that the disease can readily be used as a means of educating the public in the possibilities of preventive medicine.

In the year 1922 the International Health Board had a part in hookworm control activities in 22 governmental areas in the United States, the West Indies, Central America, South America, and the Far East. Since 1911 the Board has co-operated in 69 states and countries. In 54, control measures were carried out; in 15 others only surveys were made. The policy of the Board in this work has been: (1) to undertake control measures only on the invitation of a government which (2) bore from the first at least a small part of the expense, and agreed (3) to take on each year an increasing proportion of the cost until it finally (4) assumed entire responsibility for the continuance of the project. In order to measure the progress of control the Board in the last three years made re-examinations of school children in 66 counties in the Southern States and compared results with those of the original surveys, which were made between 1910 and 1914. On the average a reduction of 47.5 per cent was shown. In one county a decrease of 94 per cent had taken place; in several, over 80 per cent; in only one was an increase disclosed.

Simple and well understood as hookworm control may seem to be, the fact is that new knowledge is constantly leading to the adoption of new methods. The Board's staff in the field constitutes in a true sense a body of research workers who are always on the alert for information and improved methods. From time to time experts are sent out to make special studies which throw new light on the problems of sanitation, treatment, and education. Important field studies in Trinidad and Porto Rico show that hookworm larvae cannot travel far through the soil and do not live more than six weeks. This localizing of infection and self-sterilizing of the soil have a fundamental bearing on the problem of sanitation.

LOW CERVICAL CESAREAN SECTION (LAPAROTRACHELOTOMY).

Laparotrachelotomy is the term given by J. B. De Lee and E. L. Cornell, Chicago (*Journal A. M. A.*, July 8, 1922), to the operation they perform, as this expresses exactly what it is—an incision in the neck of the uterus through the abdomen. Vaginal cesarean section would be called colpotrachelotomy. They have performed 145 laparotrachelotomies. The results were very favorable. Only one woman died. The advantages of laparotrachelotomy are said to be: (1) The cervix stands infection better than the fundus because it is used to it—the local immunities are developed. (2) The lower portion of the abdomen is more resistant to infection. (3) The cervical wound is at rest, unaffected by after-pains, and can heal in peace. (4) The healing of the cervix is better than that of the fundus because active involution and the fatty degeneration of the uterine wall defeat the healing power of the tissues (Munro Kerr). (5) There is relatively little danger of leakage of the lochia. (6) The incidence of adhesions is reduced almost to zero. (7) The possibility of rupture of the scar in subsequent pregnancy and labor is reduced to a minimum. (8) The parturient can be given a real, objective test of labor. (9) Abdominal hernia has not yet occurred in any case, even after those that suppurated. For these nine reasons De Lee and Cornell prefer laparotrachelotomy, and employ it in all cases in which abdominal delivery is indicated. In excessively obese women, in pendulous abdomen, the classic operation may be required.

THE END-RESULTS OF ABDOMINAL CESAREAN SECTION.

In 117 abdominal cesarean sections performed at the Charity Hospital of New Orleans (excluding the Porro cases), there were twelve deaths from peritonitis and two from sepsis; all of these patients had had vaginal examinations or attempts at delivery before operation. The majority of all seventy-six patients recovering had fever, the puerperium being absolutely afebrile in only seventeen. Of sixty Charity Hospital patients in whom subsequent pregnancy was possible, five have not become pregnant since, four have passed through normal labors, two were delivered by forceps after long second stages (one by the Scanzoni method for unrotated right occipitoposterior position), one has had a second cesarean operation, two have miscarried, one returned with a ruptured scar, one died eighteen months after operation when six months pregnant, and forty-three could not be located. Of twenty-seven private patients (on whom thirty-three sections were performed), two were delivered normally, four had a second cesarean section, one had three cesarean sections, four were

patients cared for in 1921 (in whom subsequent pregnancy is as yet hardly possible), one sustained a ruptured scar at subsequent labor, five died (one after her second cesarean section), and ten in whom subsequent pregnancy was possible have not been traced. Six cases of ruptured cicatrix are reviewed by E. L. King, New Orleans (*Journal A. M. A*, July 8, 1922). He believes that the indications for cesarean section should be restricted rather than broadened. In obstetric teaching, more and more stress should be laid on the importance of careful pelvimetry and of the early detection and proper treatment of toxemia. Craniotomy or embryotomy on the dead baby may be resorted to more frequently, pubiotomy may occasionally be employed, and the use of the Porro operation may be advantageously extended in infected cases. The low extraperitoneal operation, through the lower uterine segment, or partly through this structure and partly through the upper portion of the cervix, bids fair to become the operation of choice in the great majority of cases in which there is infection, especially if its claim to a lower percentage of subsequent rupture of the scar is borne out by experience.

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES.

Insulin.—An aqueous solution of an active principle from pancreas which effects sugar combustion. The strength of insulin is expressed in "units," one unit being one-third of the amount required to lower the blood sugar below 0.045 per cent and cause convulsions in a rabbit weighing 2 kg. which has been previously starved for twenty-four hours. The administration of insulin to diabetic dogs and to man in severe cases of diabetes mellitus restores to the body the lost ability to oxidize carbohydrate, and glycogen is again stored in the liver. If insulin is administered at suitable intervals to a person suffering from diabetes mellitus, the blood sugar is maintained at a normal level and the urine remains free of sugar. Fat is also burned and, as a result, ketone bodies do not appear in the urine and diabetic acidosis and coma are prevented. The administration of insulin is indicated in cases of diabetes mellitus which cannot be controlled satisfactorily by dietetic treatment. Overdosage of insulin is followed by the development of serious symptoms which demand immediate treatment. Insulin is administered subcutaneously one, two or three times a day before meals. The dosage required to reduce the blood sugar to the normal level must be established for each patient by determination of the blood sugar before and after administration of insulin. In cases of coma or severe acidosis, an initial dose of 15 or 20 units of insulin may be given, followed at 3 to 4-hour intervals by smaller doses with simultaneous administration of glucose.

Insulin-Tolonto.—A brand of insulin. It is marketed in 5 c.c vials containing 10 units in each c.c., and in 5 c.c. vials containing 20 units in each c.c. Connaught Antitoxin Laboratories of the University of Toronto, Toronto, Ontario, Canada.

Quinine Ethyl Carbonate.—The quinine ester of ethyl carbonic acid. Quinine ethyl carbonate was first introduced as euquinine. It is used in place of quinine sulphate and similar soluble quinine salts when a practically tasteless quinine compound is preferred.

Quinine Ethyl Carbonate-M. C. W.—A brand of Quinine Ethyl Carbonate-N. N. R. Mallinckrodt Chemical Works, St. Louis, Mo.—*Jour. A. M. A.*, June 2, 1923.

Arsphenamine-Mallinckrodt.—A brand of arsphenamine-N. N. R. (See New and Nonofficial Remedies, 1923, p. 46.) It is marketed in ampules containing, respectively, 0.1 Gm., 0.2 Gm., 0.3 Gm., 0.4 Gm., 0.5 Gm., 0.6 Gm. and 1.0 Gm. Mallinckrodt Chemical Works, St. Louis, Mo.

Barbital-M. C. W.—A brand of barbital-N. N. R. (See New and Nonofficial Remedies, 1923, p. 62.) Mallinckrodt Chemical Works, St. Louis, Mo.

Cinchophen-M. C. W.—A brand of cinchophen-N. N. R. (See New and Nonofficial Remedies, 1923, p. 90.) Mallinckrodt Chemical Works, St. Louis, Mo.

Mercuric Cyanide-M. C. W.—A brand of mercuric cyanide-N. N. R. (See New and Nonofficial Remedies, 1923, p. 194.) Mallinckrodt Chemical Works, St. Louis, Mo.—*Jour. A. M. A.*, June 16, 1923.

Iletin (Insulin-Lilly).—A brand of insulin. (See *Jour. A. M. A.*, June 2, 1923, P. 1617.) It is marketed in 5 c.c. ampules containing 10 units in each c.c. and in 5 c.c. ampules containing 20 units in each c.c. Eli Lilly & Co., Indianapolis, Ind.—*Jour. A. M. A.*, June 23, 1923.

Amidopyrine-Abbott.—A brand of amidopyrine-N. N. R. (See New and Nonofficial Remedies, 1923, p. 250.) It is marketed in substance and in 5-grain tablets. Abbott Laboratories, Chicago, Ill.

Epinephrin Chloride Solution-Abbott.—A solution containing epinephrine chloride, equivalent to 1 part of epinephrine in 1,000 parts of physiological solution of sodium chloride, preserved by the addition of benzoic acid and saturation with carbon dioxide. For a discussion of the actions, uses and dosage of epinephrine see New and Nonofficial Remedies, 1923, p. 112. Abbott Laboratories, Chicago, Ill.—*Jour. A. M. A.*, June 30, 1923.

PROPAGANDA FOR REFORM.

Calcium Therapy in Tuberculosis.—From a review of the literature, Maver and Wells concluded that there is no convincing clinical evidence of the value of calcium administration in tuberculosis. They believe that no deficiency in blood calcium exists in tuberculous patients. From carefully controlled animal experiments these investigators conclude that calcium administration does not affect the course of tuberculosis in animals. If the use of calcium compounds in the treatment of tuberculosis is to be continued, clinical experiments of a scientific character should be conducted. At the present time there appears to be no scientific basis for the use of calcium in tuberculosis.—*Jour. A. M. A*, June 2, 1923.

Progress and Conservatism in Therapeutics.—The Committee on Therapeutics of the Council on Pharmacy and Chemistry has published a communication calling attention to two books which physicians should have—New and Nonofficial Remedies and Useful Drugs. It is explained by the committee that for eighteen years the Council has done its utmost to bring before the medical profession the truth concerning the new proprietary medicinal preparations which are being offered to the profession. The work and functions of the Council are discussed, and it is explained that while the Council was organized primarily to put a stop to the exploitation of proprietary medicines under false claims and the use of secret preparations, its activities have broadened until its work may now be characterized as a "propaganda for the rational use of drugs." The communication concludes: "New and Nonofficial Remedies" and "Useful Drugs" together furnish information concerning all drugs, old and new, which are at present essential to, or give promise of value in, the practice of medicine. They have been compiled with a special object in view, namely, to meet the

needs of the student and practitioner of today. The report is signed by C. W. Edmunds, M. D., professor of materia medica and therapeutics, University of Michigan, Ann Arbor, Mich.; John Howland, M. D., professor of pediatrics, Johns Hopkins University, Department of Medicine, Baltimore, Md.; Ernest E. Irons, M. D., Ph. D., associate professor of medicine, Rush Medical College, Chicago, Ill.; W. T. Longcope, A. B., M. D., professor of medicine, Johns Hopkins University, Department of Medicine, Baltimore, Md.; G. W. McCoy, M. D., director hygienic laboratory, U. S. Public Health Service, Washington, D. C.; W. W. Palmer, B. S., M. D., Bard professor of medicine, College of Physicians and Surgeons, Columbia University, New York City; Francis W. Peabody, M. D., professor of medicine, Medical School of Harvard University, Boston, Mass.; L. G. Rowntree, M. D., Sc. D., professor of medicine, Mayo Foundation, Rochester, Minn.—*Jour. A. M. A.*, June 2, 1923.

More Misbranded Nostrums.—The following preparations have been the subject of prosecution by the Federal authorities charged with the enforcement of the Food and Drugs Act: Woods V. Tabules (Edward J. Woods), containing zinc phosphid, strychnin and plant extractives. Lukosine (National Drug Co.)—a powder containing approximately 80 per cent of boric acid and small proportions of zinc sulphate, alum and a salicylate, and traces of alkaloid, phenol, thymol and menthol. Eckman's Alterative (Burrows-Little-White Co.), consisting essentially of 94.4 per cent of water flavored with clove oil, 3.3 per cent of calcium chlorid and 2.3 per cent of plant extracts. Gombault's Caustic Balsam (Lawrence-Williams Co.)—a mixture of a fatty oil with approximately 20 per cent by volume of oil of turpentine. McGraw's Oil of Life (McGraw Remedy Co.), consisting approximately of 95 per cent of kerosene and small proportions of turpentine oil, tar oil and camphor. Vital Sparks (Hollander-Koshland Co.), gelatin capsules containing a fatty oil, colored red, and a sugar coated pill of zinc phosphid, damiana and strychnin. Mydil Antiseptic Wafers (Chas. S. Ruckstuhl), composed of borax and starch. Syrup Leptinol (Balsamea Co.), consisting of leptotaenia dissecta (a plant belonging to the parsnip family), sugar, glycerin, alcohol and water. Sangvin (Dr. M. Spiegel & Sons), composed essentially of plant drugs, including a laxative drug, sugar, alcohol, glycerin and water. Peterson's Ointment (Peterson's Ointment Co., Inc.)—a petroleum ointment containing zinc oxid, tannin, phenol, and camphor.—*Jour. A. M. A.*, June 9, 1923.

NEWS

Scurry County to Have Hospital.—Bonds were recently voted to the amount of $50,000, with which to build a hospital for Scurry county, Texas.

Hospital for Coleman.—The cornerstone for the Overall Sanitarium, Coleman, Texas, was laid July 6. The hospital is the gift of the widow of the late Colonel R. H. Overall, who died in 1900. It will contain twenty rooms and wards, and will be equipped in the most modern manner possible. Dr. L. P. Allison of Brownwood, will take charge of the institution, under a board of trustees. The building will cost $75,000.

New Hospital at Brownsville.—The new Mercy Hospital was formally opened in Brownsville, Texas, July 2. This institution cost approximately $100,000, and is considered modern in every particular. It was built by the Sisters of Mercy, the headquarters of which organization are at Laredo, from funds donated by the citizens of Brownsville. There are four wards and fifteen private rooms, with the necessary laboratories, operating rooms and the like.

Dallas Hospitals are now under direct control of a hospital board consisting of six members, who have recently been appointed and sworn in. The hospitals concerned are the Parkland, Woodlawn, Union and Convalescent. The county and city will jointly defray the expenses of management of these institutions. The property under control of the hospital board is valued at approximately $825,000. Under a city ordinance and order of the city commissioners court, the board has approximately the power of directors of corporations.

The American Roentgen Ray Society will hold its twenty-third annual meeting in the Congress Hotel, Chicago, September 18-21, 1923. The scientific program has been issued, and is quite notable of its kind. Numerous foreign contributors of note have places on the program, among whom might be mentioned, Dr. Robert Knox of England, Professor Walter Friedrich of Germany, Dr. Gustav Bucky of Germany, Dr. Paul C. Hodges of China and Dr. Carlos Heuser of Argentina. The following Texas doctors appear on the program: Chas. L. Martin, Dallas; Davis Spangler, Dallas, and John W. Cathcart, El Paso.

New Superintendent Dallas City-County Hospital.—Dr. Geo. C. Kindley has been appointed superintendent of the Parkland City-County Hospital, Dallas, and is in charge. Dr. Kindley is a native Texan, a graduate of the Medical Department of the University of Texas (class of 1911), formerly Instructor of Pathology and Bacteriology in the Medical Department of the University of Texas, and was at one time House Surgeon in the Santa Fe Hospital at Temple. He served during the World War in a base hospital in France and for the past three years has been in the service of the Veterans' Bureau, located in Dallas.

Medical Assistant (Pharmacology) Wanted.—Receipt of applications will close September 11. The examination is to fill a vacancy in the Bureau of Chemistry, Department of Agriculture, and vacancies in positions requiring similar qualifications at entrance salaries ranging from $3,000 to $3,600 a year. The duties are to carry on pharmacological and toxicological investigations and research in connection with the standardization and physiological assay of certain drugs, such as digitalis, strophanthus, ergot, pituitary, etc., as required by the United States Pharmacopoeia.

Competitors will not be required to report for examination, but will be rated on their general education and medical training, practical or professional experience and fitness, and publications or thesis to be filed with the application. Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the Board of U. S. Civil Service Examiners at the post office of customs house in any city.

Junior Medical Officer Wanted.—Applications will be received until December 28. The examination is to fill vacancies in the Indian Service, at entrance salaries ranging from $1,000 to $1,200 a year, plus the increase of $20 a month granted by Congress, and quarters, heat, and light; in the Coast and Geodetic Survey, at an entrance salary of $1,020 a year, plus the increase of $20 a month, and an allowance of $1 a day for subsistence while serving on board ship, except in the Philippines, where the allowance is $2.50 a day; and, in the Panama Canal service, at an entrance salary of $250 a month. Applicants must have been graduated from a medical school of recognized standing, or be senior students in such institution and furnish proof of graduation within six months from the date of making oath to the application. Competitors will not be required to report for examination, but will be rated on their

education, training, and experience. Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. Civil Service Examiners at the postoffice or customs house in any city.

Changes in Medical Department, University of Texas.—At their meeting July 10, the Board of Regents of the University of Texas authorized the following promotions and appointments in the School of Medicine and College of Pharmacy at Galveston:

Dr. H. O. Knight, now Associate Professor, was promoted to be full Professor of Anatomy; Dr. S. M. Morris, formerly Professor of Ophthalmology, Otology and Laryngology, becomes Professor of Ophthalmology; Dr. D. P. Wall, now lecturer on Otology and Laryngology, becomes Professor of Otology and Laryngology; Dr. E. D. Crutchfield, now Adjunct Professor of Dermatology and Syphilology, was promoted to be Associate Professor. Dr. W. B. Reading, now Adjunct Professor of Diseases of Children, was promoted to be Associate Professor. Dr. W. R. Cooke, now Instructor in Obstetrics and Gynecology, was promoted to be Associate Professor. Dr. Joseph Kopecky, now Instructor in Clinical Medicine and Clinical Pathology, becomes Associate Professor of Clinical Medicine and Clinical Pathology. Dr. C. T. Stone, now Adjunct Professor of Clinical Medicine, becomes Associate Professor of Clinical Medicine. Dr. E. L. Rice, now Instructor in Clinical Medicine, becomes Adjunct Professor of Clinical Medicine; Dr. Violet H. Keiller, now Adjunct Professor of Surgical Pathology, becomes Associate Professor of Surgical Pathology; Dr. George E. Bethel was appointed Adjunct Professor of Anatomy; Dr. Meyer Bodansky, now Instructor in Biological Chemistry, becomes Adjunct Professor of Biological Chemistry.

The following new instructors and tutors were appointed: Drs. G. W. N. Eggers, G. R. Enloe and E. M. Jordan, Instructors in Anatomy; Mr. D. B. Galvin, Tutor in Biological Chemistry; Miss Elsie Urbantke, now Instructor in Bacteriology, was appointed Instructor in Histology and Embryology; Dr. W. H. Hill was appointed Instructor in Pathology; Dr. Murla Algeo, Instructor in Pharmacology; Miss Evelyn Kerns, now Tutor in Bacteriology, becomes Instructor in Bacteriology; Dr. J. C. Pegues was appointed Instructor in Physiology.

The Medical Women's National Association met in annual session in San Francisco, June 25-26, 1923. The following officers were elected for the ensuing year: President-elect, Dr. Katherin C. Manion of Port Huron, Michigan; first vice-president, Dr. Martha Welpton of San Diego, California; second vice-president, Dr. Marjory J. Potter of San Diego, California; third vice-president, Dr. Florence W. Duckering, Boston, Massachusetts; secretary, Dr. Jessie W. Fisher, Middletown, Connecticut; treasurer, Dr. L. Rose H. Gantt, Spartanburg, S. C. The 1924 annual meeting will be held in Chicago, in conjunction with the annual session of the American Medical Association.

Among the important transactions of this meeting was the decision to accept into membership groups of women physicians, as heretofore proposed by independent organizations. Under the authority of the new policy, the following were admitted during the annual session: The Medical Women's Societies of Kansas, New York, Connecticut, and the Portland, Oregon, State Women's Club. Membership in the Medical Women's National Association is based upon membership in the American Medical Association.

Closing in on Yellow Fever.—President Vincent of the Rockefeller Foundation, in a bulletin recently issued, has the following to say in regard to the campaign against yellow fever:

"Definite progress was made during 1922 in the International Health Board's campaign to drive yellow fever from the world. The comparatively small number of reported cases of the disease were confined to Mexico, to a restricted area in northern Brazil, to points on the West Coast of Africa, or to ships en route from one of these countries. The Mexican authorities warmly welcomed and supported the co-operation of the Board. To one familiar with the history of yellow fever, the fact that for a whole year Central America, the West Indies, and all but one country of South America were free from the scourge which for nearly two centuries ravaged these regions, is strikingly significant. It is hard to realize that this latest phase of the fight on yellow fever began only five years ago. . . . It is too early to predict a complete victory, but the successors of General Gorgas share his faith that it will in time be won."

SOCIETY NEWS

Dallas County Medical Society met June 28, with thirty-eight members and one visitor present.

Dr. B. H. Griffin reported a case of syphilis involving the finger nails.

Dr. E. R. Carpenter reported a case of blastomycosis of the brain as evidenced by the presence of yeast cells in the spinal fluid. The report was discussed by Drs. Bell and C. M. Rosser.

Dr. R. J. Gauldin reported further on a case of occlusion of the cervix, in which he had operated three times during the last fifteen months. The report was discussed by Drs. C. M. Rosser, Thaxton and Hudson.

Dr. F. H. Newton reported the case of a woman with persistent headache extending over a period of years, who had undergone seventeen operations upon the nose without relief. He stressed the necessity of eye, ear, nose and throat practitioners being more conservative in their operative procedures on the nose. The report was discussed by Drs. Carlisle and Carpenter.

Dr. A. W. Carnes reported a case of profuse hemorrhage from the urethra. Dr. Super suggested prostatitis as the cause, or possibly polyp of the bladder.

Dr. W. L. Hudson read a paper on "Staphylococcus Infection of the Face and Lips," with report of five cases. The paper was discussed by Drs. Griffin, Rosser, Ard, Riddle, Carlisle, Milliken and Hudson.

Dr. G. B. Thaxton read a paper on "Introductory Remarks on Sterility," with case report.

The application for membership of Dr. J. H. Ryon was read and referred to the Board of Censors.

Drs. P. M. Walker and W. L. Hanson were elected to membership on application.

President Dr. Rosser called attention to the fact that the Board of Censors is investigating the use of Abram's Treatment. He expressed the wish that they would report their activity at the next meeting.

Dr. Baker requested that a paper be read in the near future upon the subject of propagation by the unfit, and the need of unsexing such people as a humane and rational treatment. Discussion was by Drs. Rosser and Milliken.

Dallas County Medical Society met July 12, with twenty-six members present.

Dr. E. R. Carpenter read a report of a case of a man with high blood pressure and optic nerve involvement, which report was discussed by Drs. Giles and Newton.

Dr. Giles reported a case of chronic interstitial nephritis, with blood pressure 248 over 130, that responded to dieting, complete rest in bed, etc. The

pressure fell to 210 over 110, where it remained for three months. The same treatment was continued, the blood pressure finally coming down to 145 over 80.

Dr. Stone read a paper on "Inflammatory and Infective Changes caused by Gall Stones." Discussion was by Drs. Grigsby, Rosser, Nash, Giles and Weaver.

Dr. R. E. Wright read a paper entitled, "Vicious Circle," which was discussed by Drs. Carpenter, Newton and Bland.

The applications for membership of Drs. T. S. Love and J. A. Hampton, were read and referred to the Board of Censors.

The resignation of Dr. A. M. Gantt was read by the secretary. Upon motion it was tabled.

Dr. Rosser invited the society to meet with him at his country home at White Rock, July 26. The invitation was accepted.

De Witt County Medical Society met at Yorktown, July 18, with the following members in attendance: Drs. Brown, Jr., Burns, Dobbs, Lackey, Allen, Jr., Cross, Nowierski, Jr., Nowierski, Sr. Drs. Lankford, Venable, Bassett and Jackson, all from San Antonio, were present as visitors.

The following program was presented: "Remove Burden of the Heart Before Heart Treatment," Dr. J. S. Lankford, San Antonio; "Diverticula of the Bladder" (illustrated), Dr. J. M. Venable, San Antonio; "Acute Colitis in Children," Dr. W. M. Bassett, San Antonio.

A vote of thanks was extended the visiting physicians for their interesting papers.

The next meeting of the society will be held in Yoakum, August 15.

El Paso County Medical Society on June 18, entertained Major General W. M. Ireland, Surgeon General of the United States Army, at a dinner. There were present a large number of members and visitors, and numerous addresses were made. President Dr. C. M. Hendricks of the El Paso County Medical Society, presided, and the Honorable R. M. Dudley, Mayor of the city, delivered the principal address of welcome. Judge Ballard Coldwell also spoke, and in the course of his remarks had some very interesting and entertaining things to say. We quote the following, as a sample:

"I have never had much opportunity of conversing with doctors. When I was a young man growing up and had three dollars cash to pay for a visit from anybody, I never did like to give it to the doctors. In late years, however, I have been on the trial bench sometimes and have had occasion to have doctors come before me, hear their testimony and get their views. Dr. Brown here, as you all know, is the Southwestern Doctor. He is my authority for the fact that a burn that will burn off all the skin is better for the patient than one which will only burn off part of the skin. Dr. Ramey, of the Southern Pacific (and the Southern Pacific pays him well each year, though I do not know whether it is for his medical knowledge or for his testimony), is my authority for the fact that a leg that is cut off under treatment will come back again. Then, we have Dr. L. G. Witherspoon, who represents the smelter. A man up there got caught between two box cars, resulting in a collapsed lung, and Dr. Witherspoon is my authority for the statement that it was a positive benefit to the fellow, as hereafter he will not be able to have double pneumonia."

Colonel M. A. W. Stockley, commanding officer of the William Beaumont General Hospital, introduced General Ireland, who in turn delivered an address that will be long remembered by those who had the pleasure of hearing it. It is desired to quote somewhat at length certain references to the part the medical profession has played in the recently all important matter of preparedness for war:

"It was intimated to me that I might say something to you tonight on preparedness. It seems to me that while other people have made a great deal of noise and probably gone to a great deal of expense on the subject of preparedness, yet, ever since the organization of the medical profession in this country the medical man has been the original preparedness man of the country. It has been from the results of his labor that we have accomplished more in preparing the country to fit itself than from any other organization. It will be rather surprising, perhaps, to some outsider, to say that it was the doctor who made it possible for this country to come through the world's war and make this world a proper place for people to live in. This war could not have been carried on for four years, involving as it did all of the great nations of the earth, if the medical profession had not itself carried on so faithfully for so many years. It will be interesting to recall a few things that the medical profession has done.

"In Porto Rico, during the Spanish-American War, the report went out that people were starving, that thousands were suffering and dying. A medical officer investigated and discovered that this sickness was not due to lack of food, but to the hookworm. This discovery, with the treatment inaugurated and carried on since, has rehabilitated Porto Rico. This was the foundation of the work that is going on all through our country today, headed by the Rockefeller Institute, and which has curtailed to a tremendous extent hookworm disease in the Southern States.

"For three hundred years yellow fever had been endemic in Cuba. Every year the inhabitants of our Southern States, along the Atlantic and Gulf, New Orleans, Mobile, Savannah and Galveston, had to shut up shop and go to the North to escape these epidemics. This entailed the loss of millions of dollars, to say nothing of the quarantine regulations that had to be enforced against South America and Cuba. In 1899, Walter Reed, at the head of a medical commission, went to Cuba to find out the cause of yellow fever, if possible. In a very short time and at a negligible expense, he found that yellow fever was transmitted to man by the bite of a certain mosquito. This discovery gave to man control of that scourge. It made possible the building of the Panama Canal and eventually the eradication of yellow fever from the face of the earth. I was told a very short time ago by Colonel Russell, who is now the head of the International Sanitary Commission of the Rockefeller Foundation, that there are only two foci of infection on the Western Hemisphere, one in Columbia and one in Brazil, and they are working on these now and expect to have them cleaned up in two years. Yellow fever disabled the entire Fifth Army Corps when we went to Cuba, and helped to send it back home as a shattered organization.

"Out of every thousand men in the Northern Army during the Civil War, thirty every year had typhoid fever, and eleven died. During the Spanish-American War 147 men out of every thousand mobilized had typhoid and fifteen died, with a record of 22,000 cases. Now picture in your mind the tremendous toll that typhoid took during those two years. And many of us realized that when we mobilized our troops in 1898, our camps were filled with typhoid fever. A great howl went up against the medical profession and the War Department, and out of that war came the investigations that laid the foundation for the eradication of typhoid fever from the army and its great diminution in the civilian population.

The investigations in our camps showed conclusively how typhoid fever was carried from one man to another, and very shortly after that the English began to immunize their soldiers against the disease. We sent Major Russell over to investigate. He afterwards went to Berlin and investigated further, and then came back to the United States and prepared a virus, which was infinitely better than anything they had in Europe. When troops were mobilized from this State in San Antonio in 1917, it was made mandatory that they be immunized, and only one man in six months had typhoid fever, and he was a teamster who, in some way, had managed to escape immunization treatment. What does all that mean as applied to the four millions men mobilized during the World War. It means this—in the Spanish-American War we had 28,000 cases and about 1,700 deaths. In the World War, living as men did in the trenches—ideal conditions for the transmission of typhoid fever—we had 2,200 cases and only 212 deaths, a negligible quantity, it may be said, and a great number of these cases occurred right here in the United States, among our young men. Nobody knows how many cases we would have had during the World War if we had had the same conditions that existed at the time of the Spanish war. It is probable that there would have been at least 600,000 cases.

"Dysentery is another disease which we have controlled almost 100 per cent, so far as the Army is concerned. During the Civil War we had 280,000 cases of dysentery; during the World War, 4,700 cases.

"Malaria fever is also another disease which we have all but mastered. In 1879, a French Army surgeon, working in Algeria, found that those who suffered with chills and fever had a certain organism in the blood. This in itself did not accomplish anything, but in 1897, another army surgeon, Dr. Ross, of the English service, found out that this blood in the victim of malaria was transmitted by the bite of a mosquito, which made it easy again and simply a matter of fighting the mosquito. What was the result? In the Spanish-American War we had 114,000 cases of malarial fever with 290 deaths. In the World War, in spite of the fact that a great many of our camps were located in the South, we had but 15,000 cases of malarial fever with only 36 deaths, a negligible quantity.

"Smallpox is another disease which we have practically controlled. From 1700 to 1800, every twelfth death in England was due to smallpox, and during the same hundred years, thirty out of every thousand people in France were sent to eternity by the same disease. Jenner discovered immunization against smallpox in 1796, and as a result during the Civil War, two out of every thousand mobilized died each year from smallpox. During the World War, but fourteen died in a mobilization of more than four million men, and most of those had come from the rural districts and were infected before being vaccinated.

"In one class of disease we have made no progress in prevention. We are as helpless today to control respiratory diseases as we were twenty-five years ago, and it might be well to remember the story of the World's War in that respect. We can remember it in a very easy way by recalling that our losses, in round numbers, totaled 113,000, of which number 37,000 were killed on the field of battle, and 14,000 died of wounds, thus accounting for 51,000. Of the balance, 4,000 died from injuries, such as explosions, accidental discharge of guns, bombs, etc., with which the medical profession had nothing to do. We could not prevent these 55,000 deaths, but 58,000 men died from disease, and we are interested in that at once. Of this number, 45,000 died from pneumonia. We lost 42,000 men in September, October and November of 1918 from pneumonia, during the flu epidemic (of course, they all died from pneumonia). No agency could have prevented the great epidemic of influenza in 1918, but if we could have been spared that epidemic, our results would have been only 13,000 deaths from disease. If we could have had that record, we could have hung it on the wall for all time to come."

El Paso County Medical Society met in special session, June 23, to meet Dr. William Sharpe of New York, who delivered an address on "Recent Advances in the Field of Neurological Surgery, and Especially in Diagnosis and Treatment of Brain Injuries."

In the course of his remarks, Dr. Sharpe called attention to the fact that the field of neurologic surgery has advanced immensely during the last ten to twenty years. Formerly the neurologists were not so proficient in surgery and the surgeons were not so proficient in neurology, which prevented the excursions into this field that should have been made in order to keep abreast of the advances of the day in medicine and surgery. Co-operation and combination of effort have recently resulted in placing this specialty where it belongs, in the forefront of medicine. Speaking of brain tumors, Dr. Sharpe said his experience has been rather discouraging, because of the fact that more than 25 per cent of such tumors are malignant, and a large majority of them so situated that even when removed fairly early, damage has already been irreparably done. In the spinal cord, conditions are much more favorable for treatment. Only about one-third of the lesions here are malignant, and the diagnosis can be made comparatively early and more accurately. Patients with fractures and other spinal column injuries have heretofore been seriously neglected because of the generally prevailing opinion that transvers myelitis exists, making all efforts at correction futile. We do not consider operation on the cord so dangerous as formerly was the case, which results in greater effort to save these patients. Each case should be given the benefit of any doubt and operation resorted to where any promise of good results is held out. The speaker had been recently extended the privilege of inspecting all children born in a certain large hospital in New York, and he had made some very helpful observations in regard to brain injuries sustained at birth. He had made lumbar punctures on 100 newborn in that institution. Of these, 9 suffered intracranial hemorrhage, of whom 2 died. There was bloody cerebral spinal fluid in 4, and in 3 the cerebral spinal fluid was blood streaked. In those cases showing bloody fluid, five punctures were necessary to clear up the blood and bring the pressure down to normal. Of the 100 cases, 15 may be said to have been difficult labor, although not exceedingly so. Instruments were used in 10 of them—medium forceps in one, and low forceps in nine. Of this series, 45 were first born children and 5 were males. The large percentage of hemorrhage was doubtless due to the large percentage of first born childlren.

The address of Dr. Sharpe was discussed numerously.

Hidalgo County Medical Society met in McAllen, July 5, with the following in attendance: Drs. Barrera, Coldwell, Conard, Doss, Davis, Harrison, Hunter, Lockhart, Lemmon, Mahone, McGee, McMillan, Miller, Osborn, Stephens, Utley, Webb and W. E. Whigham.

Following a bountiful dinner, compliments of the local profession, and the disposal by auction of the office furniture, fixtures, books and instruments of a deceased fellow member, Dr. Dashiel, the following program was rendered:

Dr. Barrera presented a middle aged Mexican woman, with a round, perforating hole in the upper posterior portion of the right parietal bone, about three-eighths of an inch in diameter, surrounded by a rough, hairless space about two inches in diameter. The meninges of the brain could be clearly seen through the opening. Some months before the patient had complained of pain extending over several months time. Eventually a soft, fluctuating tumor appeared, which increased in size until it ruptured of its own accord, at which time a bloody serum escaped. It is not known whether or not pus was present. At this time there is a continuous, serous discharge, apparently sterile. It seems that no brain tissue has at any time escaped. There are no symptoms of illness present, except a general feebleness. A discussion of this case resulted in the decision to resort to the Wassermann and, regardless of results, undertake antisyphilitic treatment.

Dr. John Hunter read a paper on "Folloculosis, Granular Lids and Trachoma," in which he attempted to show an intimate relation between these conditions. Discussion was by Drs. Lemmon, Miller, Davis, W. E. Whigham and Utley.

Dr. McMillan read before the society correspondence between himself and the Federal authorities, in which it appears that he (Dr. McMillan) is charged with being a narcotic addict. Dr. McMillan stated that the agent from whose report the charges were made, refused to examine his records. He considered the charges unjust and without foundation. After a full discussion, the society adopted resolutions in support of Dr. McMillan and declaring him free from addiction of this or any other character which would lay him liable to criticism.

Dr. Hunter called the attention of the society to the practice of two of its members of securing publicity through the lay press, part of which, he stated, he had occasion to know had been paid for. One of the members implicated was present and denied all responsibility for the publicity complained of.

The secretary, Dr. Hunter, again presented his resignation, and requested transfer to the Cameron County Medical Society, in view of his removal from Higalgo county and location in Cameron county. In severing his connection with the society, as secretary and member, Dr. Hunter expressed his warm appreciation of the support and co-operation extended him by its members. His resignation was accepted with expressions of profound regret.

Dr. W. E. Whigham was elected to fill the unexpired term of Dr. Hunter as secretary of the society. The election of Dr. Whigham created a vacancy in the vice-presidency, which was filled by the election to that office of Dr. L. M. Davis.

The next meeting will be held in Mission on the first Thursday in September.

Tarrant County Medical Society met June 19, 1923.

Dr. Tisdale presented a case of erythema multiforme.

Drs. Sullivan and Phillips presented two cases of jaundice taken from the City-County Hospital. In conjunction with this case, the general subject of jaundice was discussed by Drs. Sullivan, Phillips, Barcus and Gilmore.

Dr. Thomason presented a case of miliary tuberculosis in a negro woman. At operation a tuberculous peritonitis was disclosed.

Dr. Jagoda presented a patient for diagnosis. Following examination of the patient and discussion of the case by several members, the general conclusion was reached that the condition complained of was Vagabond's Disease. The case was discussed by Drs. Phillips and K. H. Beall.

Dr. Hawkins reported the case of a girl 14 years of age, who was found suffering from acute uremia. Suppression was not complete but the prognosis was bad. The patient made a satisfactory recovery. Discussing the case, Dr. Dunn described the several kidney function tests. The case was discussed further by Drs. Sanders and Hall.

A resolution was adopted calling upon the hospitals of the city, particularly those being remodeled or in process of construction, to provide adequate means for the care of negro patients, facilities for which at the present time, the resolution stated, are inadequate.

Dr. K. H. Beall reported for the committee appointed to confer with the trustees of the proposed Methodist Hospital. He stated that his committee had been given very little consideration, and that the committee had advised against erecting the magnificent hospital in contemplation on the small lot purchased and prepared for that purpose. The committee felt, also, that the hospital authorities had not shown due respect to the medical society, after having invited its participation in the preparation of plans and the raising of money for the hospital. They had proceeded with the perfection of plans, the selection of site, etc., without any reference whatsoever to the society. Resolutions were adopted calling attention to the state of affairs complained of, copy of which was ordered filed with the hospital board in question. The following committee was appointed to further consider this matter: Drs. K. H. Beall, Hall, Barcus, Gilmore and Richardson.

Tarrant County Medical Society met July 3.

The committee appointed to confer with the Methodist Hospital Board reported that the Board would probably hesitate to build on the lot concerning the inadequate size of which the society recently made complaint.

The committee appointed to confer with the school board relative to the proposal to establish a free clinic for the public schools, reported that in the opinion of the committee the clinic would probably not be established.

The society adjourned for the summer, to meet again the first regular meeting night in September.

Van Zandt County Medical Society met at Canton, July 6, with five members and one visitor present.

Dr. J. W. Hazel of Fruitvale, presented a case for diagnosis.

Dr. M. L. Cox of Canton, reported a case of traumatic popliteal anuerism, necessitating ligation of the artery, which treatment resulted in rapid improvement.

The North Texas District Medical Association met in Bonham, June 12-13, with a good attendance. The opening exercises consisted of an invocation by Elder F. W. O'Malley of Bonham and addresses by Mayor Leon K. Hargrove and Dr. C. A. Gray. Response was by Dr. M. M. Morrison of Denison, president of the Association. The following program was rendered:

"The Early Manifestations and Treatment of Congenital Syphilis," Dr. L. O. Godley, Fort Worth—discussed by Drs. H. Leslie Moore, M. M. Morrison, D. W. Carter, Jr., and E. L. Burton; "Treatment of Diabetes Mellitus," Dr. David W. Carter, Jr., Dallas—discussed by Drs. G. L. Carlisle and Will S. Horn; "Fibro-Plastic Tendency of the American Negro (Proctologic Phase)," Dr. Curtice Rosser, Dallas—discussed by Drs. Edward White, L. C. Ellis, S. D. Whitten, Kenneth M. Lynch and H. L. Moore; "Treatment of Decompensated Heart," Dr. G. L. Carlisle, Dallas—discussed by Drs. John Neely, C. A. Gray, R. B. McBride, G. F. Brown, O. Y. Janes and W. G. Harris; "Neglected Eyes," Dr. E. L. Burton, McKinney—discussed by Dr. O. Y. Janes; "Importance of Rectal Examinations," Dr. L. C. Carlisle, Dallas—discussed by Drs. G. L. Carlisle, Curtice Rosser, and O. J. Colwick of Durant, Okla.; "Pus Belly Post-Operative Treatment," Dr. H. I. Stout, Sherman—discussed by Drs. Bacon Saunders, John Neely, Will Cantrell,

W. G. Harris and James Cooper; "Diagnosis and Treatment of Deep Seated Malignancies," Dr. Chas. Martin, Dallas—discussed by Drs. Davis Spangler, O. J. Colwick and K. M. Lynch; "Rupture of Uterus During Pregnancy," Dr. B. F. Largent, McKinney—discussed by Dr. Will S. Horn; "Extravasation of Urine," Dr. Edward White, Dallas—discussed by Drs. C. A. Gray and Bacon Saunders; "Intra-uterine Angioma," Dr. Joe Becton, Greenville—discussed by Drs. Bacon Saunders and W. G. Harris; "Surgery in the Diabetic," Dr. Sam Weaver, Dallas—discussed by Drs. M. M. Morrison, W. G. Harris and Bacon Saunders; "Butyn Anaesthesia in Ear, Eye, Nose and Throat Surgery," Dr. C. P. Schenck, Fort Worth—discussed by Dr. T. L. Goodman; "Indications for Surgical Interference in Toxemias of Pregnancy," Dr. Edwin Davis, Fort Worth; "Carbohydrates in Toxemia of Pregnancy," Dr. L. M. Whitsett, Fort Worth—discussed by Drs. J. E. Bourland and C. O. Harper; "End Results in Pregnancy," Dr. J. E. Bourland, Dallas—discussed by Drs. Edwin Davis, L. M. Whitsett and C. A. Gray; "Clinical Observations in Two Cases of Polycystic Kidneys," Dr. R. W. Van Dusen, Dallas—discussed by Dr. C. O. Harper.

Numerous case reports were made, among them report of a case of angina pectoris by Dr. W. G. Harris of Plano, and similar reports by Dr. C. A. Gray and J. E. Nevill of Bonham. The subject was then discussed freely.

Dr. Joe Becton addressed the association on the subject of the history of the North Texas Medical Association, pointing out the importance of the organization, and urging that its history be compiled by some one familiar with its past and present. He suggested that Dr. Bacon Saunders of Fort Worth, be urged to carry out this work.

Upon receiving the report that the daughter of Dr. Wilbanks of Greenville, was seriously ill, resolutions of sympathy were adopted.

A vote of appreciation was extended the Bonham Volunteer Fire Department for the use of its club room for the meeting.

Thanks were also extended the physicians of Bonham and Fannin County for the excellent program and accommodations furnished during the meeting.

The next meeting will be held in Fort Worth, in December.

El Paso Personals.—Dr. S. Haffner is recovering from a recent operation.

Born, June 21, 1923, to Dr. and Mrs. E. W. Rheinheimer, a daughter, Mary Elizabeth.

The babies' milk fund being raised in El Paso for feeding the less fortunate sick infants of that city had a substantial boost during the early part of June in quite an unique way. Big-hearted "Billy' Matthews, sergeant of the city police force, formerly an expert in boxing, published a challenge to fight any one, the entire proceeds to be given to the babies. The publication had hardly been made when accepted by Rev. S. J. T. Williams, assistant pastor of the First Baptist Church of this city. The affair was a grand success and the milk fund received a check for over $1,200.

Miss Geraldine Borland has resigned as superintendent of the El Paso Masonic Hospital, and has accepted a similar position in Chicago.

Dr. B. W. Wright has removed to Los Angeles, California, where he will specialize in urology.

Dr. R. G. Fuller, formerly associated with the Cragmore Sanatorium in Colorado Springs, Colorado, has recently become a member of the staff of the Hendricks-Laws Sanatorium. He is resident physician of that institution.

Dr. W. L. Brown delivered an address at Alamogordo, N. M., on the subject of financing the proposed Gilbert Memorial Hospital, to be erected at that place.

Dr. H. E. Stevenson left El Paso June 3, for an extended trip overland to the Pacific Coast through California and the states north.

Dr. Alvin Kirmse, for the last year associated with Dr. Hugh Crouse of El Paso, has returned to his old home, Marinette, Wisconsin.

Dr. W. C. Howell, who has until recently been physician-in-chief at the Baptist Sanatorium, El Paso, has returned to Colorado Springs, Colorado, where he will confine his efforts to general diagnostic work.

Drs. W. L. Brown and J. W. Cathcart attended the New Mexico State Medical Association meeting at Albuquerque recently. They read papers before the scientific assembly.

Dr. J. S. Horsley of Richmond, Va., visited El Paso recently, en route to the New Mexico State Medical Association meeting at Albuquerque.

Dr. W. W. Waite of El Paso, is taking an extended overland trip, with his family, through California.

Dr. Burleson Staten of El Paso, was operated upon recently in Rochester, Minnesota, and is recovering from his illness. He expects to be absent from his home for an extended time.

Dr. W. E. Vandevere, formerly with the Long Sanatorium for tuberculosis, has severed his connection with that institution and opened an office in the city.

CHANGES OF ADDRESS.

Dr. Herbert F. Gammons, from El Paso to South Carver, Mass.

Dr. J. A. Robertson, from El Paso to Hot Springs, Ark.

Dr. R. A. Wilson, from Terlingua to El Paso.

Dr. F. E. Young, from La Grange to West Point.

Dr. V. P. Powers, from San Antonio to Midland.

Dr. H. S. Kinard, from San Antonio to Amarillo.

Dr. T. L. McDonald, from Laredo to Marlin.

DEATHS

Dr. Olin Abney of Waskom, Texas, died at his home, May 30, 1923, following an illness of two weeks.

Dr. Abney was born in Newberry, S. C., December 15, 1852. His mother died when he was quite young and his father died during the war between the states. Dr. Abney came to Texas with his grandparents, Mr. and Mrs. Carey McClure, and located at Marshall. He graduated in medicine from the University of Louisville in 1881, and later took postgraduate work at Cincinnati, Chicago and New York. He also spent some time studying in Europe. He was married to Miss Fannie Steere of Providence, R. I., September 4, 1909.

Dr. Abney was for some years president of the State Medical Examining Board, and had been for a number of years preceding his death a member of the Harrison County Medical Society. He is survived by his wife and one son, Glenn Abney, who is in the Navy and stationed at San Francisco.

Dr. H. C. Bailiff of Beaumont, died at his home May 28, 1923, after a brief illness.

Dr. Bailiff was born in Garden Valley, Smith county, Texas, May 10, 1888. He was educated in the Austin public schools, the San Marcos Normal and the University of Texas, at Austin. He received his medical education in the University of Texas, at Galveston, receiving his degree in 1917. He was a member of the Phi Chi Fraternity.

Following his graduation in medicine, Dr. Bailiff accepted an internship in the Santa Fe Hospital at Temple, in which capacity he served for a year. He became connected with the Scott and White Hospital at Temple, following the conclusion of this service,

where he remained until he entered the Army, at the beginning of the World War. He was commissioned in the Medical Corps of the Army in June, 1918, and was on duty first at Camp Travis, and then overseas with the Eighty-second Division. While on duty with the Three Hundred and Twenty-eighth Infantry he saw active service in the front lines, and was wounded in the Argonne Forest.

Upon his return from France, Dr. Bailiff located in Beaumont, where he rapidly established himself

DR. H. C. BAILIFF.

in general practice. He became assistant medical director of the San Jacinto Life Insurance Company of Beaumont, and because of his aptitude for such work was likewise appointed local examiner for numerous other life insurance companies. He also served the Veterans' Bureau as district medical examiner, and continued his connection with the Army through the Medical Reserve Corps.

Dr. Bailiff was married to Miss Christine Robertson of Temple, June 6, 1921. He was buried at Temple, the home of his wife, who survives him.

Dr. Walter Adolphus Bell of Farmersville, Texas, died July 18, 1923, and his body was sent to Marshall, Texas, for burial.

Dr. Bell was born in Oglethorpe county, Georgia, October 9, 1851. He received his literary education in the Kentucky Military Institute and the University of Georgia, securing the A. M. degree from the latter institution. He graduated in medicine from the Alabama School of Medicine, Mobile, in 1874, and the following year located at Farmersville, where, with the exception of two years spent at Mineola, Texas, he had since lived.

Dr. Bell was a consistent member of the Baptist Church, and a splendid Bible student. For a number of years he was teacher of the men's Bible class. He was a member of the Collin County Medical Society until he retired from practice several years ago. He was never married.

Dr. Thomas William Carroll of Clarendon, Texas died July 4, 1923, the result of injuries received in an automobile accident the preceding day.

Dr. Carroll was born in Dallas, December 14, 1876, at which place he received his preliminary education. He secured his degree in medicine from the Medical Department of the University of Texas, in 1898, and for two years served as house surgeon of the St. Paul's Sanitarium, Dallas, in which institution he held the distinction of being the first to serve in that capacity. In 1900 he went to Clarendon, Texas, where he built up a large general practice. He was local surgeon for the Fort Worth & Denver City Railroad. He had been for many years an active member of his county medical society and the State Medical Association, and was a Fellow of the American Medical Association. He is survived by his wife and six children.

Dr. Walter R. Dashiell of Mission, Texas, died at his home, May 21, 1923, following a protracted illness.

Dr. Dashiell was born in San Antonio, Texas, July 11, 1873. He received his basic education in the public schools of San Antonio, and graduated in engineering in the A. & M. College of Texas, in 1891. Soon after his graduation from this institution he decided to enter the profession of medicine, and in 1895 secured the degree of Doctor of Medicine in Pulte Medical College, Cincinniati, Ohio. He practiced in San Antonio one year, Hillsboro one year, Mexico six years, Riogrande City three years, and in Mission twelve years. He served several years as assistant surgeon in the U. S. Public Health Service, two years of which he was on duty in Manzanillo Harbor. He came to the Rio Grande Valley while still in the U. S. Public Health Service. He was for a time stationed at Ft. Ringgold, Texas, which was named after an uncle. While stationed at Ft. Ringgold, Dr. Dashiell met and married Miss Ethel Norris. To this union two sons were born. His wife, two sons, three sisters and two brothers, one of whom is Dr. George Dashiell of San Antonio, survive him.

Dr. Dashiell had been a member of the State Medical Association since 1907. He was one of the organizers of the Hidalgo County Medical Society, and his advice and counsel has always been of great value to his fellows in organization work as well as in all medical matters.

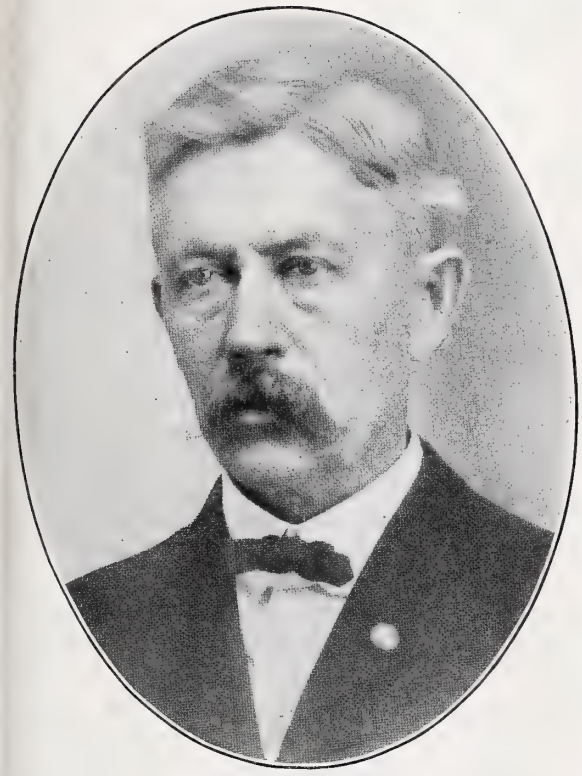
The funeral of Dr. Dashiell was one of the most impressive ever held in the community in which he resided at the time of his death. The business houses of Mission were closed for the occasion, the floral offerings were profuse, and the attendance at the funeral large. Services were conducted at the Episcopal Church, of which he was a member, and at the grave by the Masonic Lodge, with which he had been long affiliated.

Dr. J. E. Dodson, Sr., of Vernon, Texas, died at his home, June 24, 1923, following an illness of several months duration.

Dr. Dodson was born in Hickman county, Tennessee, May 12, 1847. He was educated in the neighborhood schools, finishing his academic education in Franklin, Tennessee. He graduated in medicine in the first class graduating from the Vanderbilt University, in 1875, and entered general practice at his home. He continued to practice in Tennessee for ten years, receiving appointment as government physician in the Indian service, under the first Cleveland administration, which position he held for four years. He practiced for a few months in Fannin county, Texas, following which he located in Vernon, in 1889. He was one of the few physicians who gave special attention to surgery in the early, relatively pioneer days, attaining considerable reputation in that specialty. His practice was of the usual pioneer type,

notwithstanding his devotion to surgery, and he sustained the usual hardships of the old time country doctor.

Dr. Dodson was a veteran of the war between the states. He enlisted at the age of 14 in a unit of Green's Brigade of the Confederate Army, and served throughout the war. He was a Mason of high degree, and a lifelong member and trusted official of the Methodist Church. He was the organizer and perpetual chairman of the Wilbarger Chapter of the American Red Cross, and in many particulars aside



DR. J. E. DODSON, SR.

from his professional work, assisted in the social uplift.

Dr. Dodson was an enthusiastic worker in organized medicine. He had been a member of his county society since 1904, and of its predecessors in the Panhandle many years before that time. He had been for many years a Fellow of the American Medical Association, and since its organization a member of the Southern Medical Association, not to mention a variety of independent medical societies. He was local surgeon for the Fort Worth & Denver and the Frisco Railways. He is survived by eight children, two of whom are Drs. J. E. Dodson, Jr., of Vernon and A. E. Dodson of Swansea, Arizona. All of his children were present at the funeral except one, who was prevented from attending by illness. Because of the high esteem in which Dr. Dodson was held by his fellow citizens, the stores of Vernon were closed during his funeral.

Dr. H. T. Ivy of Hillsboro, Texas, died June 11, 1923, following several weeks' illness.

Dr. Ivy was born in New Orleans, Louisiana, September 13, 1857. He received the degree of medicine from the University of Carolina, Charleston, S. C., in 1880. During the succeeding years he was married to Miss Florence Smith of Wilmington, N. C., who died in 1905, leaving a daughter, now Mrs. Robert Gage of Peoria, N. C. He came to Texas in 1887, locating at Hillsboro, where he had since lived and practiced. In 1910, Dr. Ivy was married to Miss Sara Bokin of Gadsen, Tennessee, who survives him. He is also survived by a brother, Preston Ivy, well known newspaper man, who is now connected with the Comptroller's office at Austin.

Dr. Ivy was Past Exalted Ruler of Hillsboro Lodge No. 903, B. P. O. Elks, and had for many years been an active member of the Hill County Medical Society.

Dr. Joseph E. Mitchell of Kosse, Texas, died June 17, 1923, of gangrenous appendicitis, aged 30.

Dr. Mitchell was the youngest of five brothers and four sisters, reared on a farm near Franklin, Texas. He finished high school in 1910, following which he attended the Sam Houston Normal and later taught school for several years. During 1916 and 1917 he did academic work in the University of Texas. The following two years were spent in the Medical Department of the University of Illinois, Chicago, from which institution he received his B. S. degree. During 1920 and 1921 he attended Tulane University, New Orleans, where he obtained his M. D. degree. He then served one year's internship in the Tennessee Iron, Coal and Railroad Hospital at Birmingham, Ala. He went to Kosse, Texas, in June, 1922, where he formed a partnership with his brother, Dr. John H. Mitchell, which was continued until his death, one year later.

Dr. A. M. Newman of Canadian, Texas, died suddenly at his office, June 5, 1923.

Dr. Newman was born in Adams county, Ohio, August 29, 1861. He received his literary education in the common schools of his community and the National Normal University, Lebanon, Ohio. His medical education was secured in the Medical College of Ohio, Cincinnati, from which institution he graduated in 1884. He began the practice of medicine at Burden, Kansas, from which place he went to Canadian in 1891. He was a pioneer physician in this section of the country, his practice covering the territory from Amarillo, Texas, to Woodward, Oklahoma.

Dr. Newman was for twenty years surgeon for the Santa Fe Railroad, and for many years served on the school board of Canadian. He did much toward the uplifting of the public schools in that community. He volunteered for service during the World War, but was rejected on account of his age. He then volunteered for Red Cross service, and was assigned to a hospital in France, but the armistice was signed before he received his passports. He had been an active member of the Hemphill-Roberts-Lipscomb-Ochiltree County Medical Society for fifteen years, and was a Fellow of the American Medical Association. He is survived by his wife, a son, O. R. Newman, State Plant Chief for Montana for the Rocky Mountain States Telegraph and Telephone Company, and a daughter, Mrs. Bertha Shaller of Canadian.

BOOK NOTES

Look around. You will see 1,000 young men, each with a new straw hat. How many of those young men have bought a new book recently? Thirty buy a serious book, perhaps, for a thousand that buy a straw hat. The dear little head must have a new hat. It can get along without books.—ARTHUR BRISBANE, in *Fort Worth Record.*

* * * *

Text-Book of Therapeutics, Including the Essentials of Pharmacology and Materia Medica. By A. A. Stevens, M. D., Professor of Applied Therapeutics, University of Pennsylvania, Philadelphia. Sixth Edition, Entirely Reset. Octavo of 793 pages. W. B. Saunders Company, Philadelphia and London. 1923. Cloth, $6.25 net.

The first edition of this valuable work was copyrighted in 1895, and the sixth in 1923. Its author

has always been of the conservative school of therapeutics, and never been accused of jumping to accept a new thing because of plausibility; but when real progress has been made he has not been slow to take up the truth.

The rapid advances in therapeutics within the last few years are evident throughout this revision of Dr. Stevens' book. He refers to the following agents for the first time: Benzyl benzoate, papaverine, pituitary extract, thyroxin, thromboplastin, methyl, alcohol, benzyl alcohol, mercurochrome, germanium, dioxid, emetin, yeast, acid sodium phosphate, aluminum chlorid, phenobarbital (luminal), cinchophen (atophan), silver arsphenamin, acriflavin, proflavin, surgical solution of chlorinated soda, chloramins, scarlet red, quinidin, ethyl-hydrocuprein (optichin), surgical paraffin, carbon dioxid snow.

The appearance at this time of this revision of therapeutics makes other and older works of this character almost worthless. Other authors and publishers will have to look to their place in the field or lose caste. As this book conforms pretty closely to the United States Pharmacopoeia, and the Council of Pharmacy and Chemistry of the A. M. A., it leaves little or nothing to be desired at this time.

Internal Medicine. A Work for the Practicing Physician on Diagnosis and Treatment. With a Desk Index. In Three Volumes. Illustrated with 427 Text Illustrations and 14 in Color. The Sixth Edition, Revised and Enlarged. By James C. Wilson, A. M., M. D., Emeritus Professor of Medicine and Clinical Medicine in the Jefferson Medical College, etc., assisted by Creighton H. Turner, M. D. 8vo., Cloth. J. B. Lippincott Company, Philadelphia and London. 1923.

Volume I discusses Medical Diagnosis in General; The Methods and Their Immediate Results; Symptoms and Signs and Tests, in 663 pages.

Volume II continues Diagnosis, Applications of Methods; The Natural History of Disease; Direct and Differential Diagnosis, and Prognosis, in 855 pages.

Volume III is devoted to Treatment. The Associate Editor-in-Chief in compiling this volume is Samuel Bradbury, M. D., of Cornell University Medical College, etc. This last volume contains 572 pages.

The Index makes a volume of 203 pages, 8vo., cloth, to match the set. It is handy and printed in clear type on good paper. The entire set comprises 2,293 pages of printed matter.

A good motto, "The whole art of medicine is in observation," seems to have guided the authors of these volumes.

The collaborators of the first and second volumes should be ample assurance of value to practicians. They are, J. Leslie Davis, of Jefferson Medical College; Norman B. Gwyn, of University of Toronto; Frederick J. Kalteyer, Jefferson Medical College; James Hendrie Lloyd, of the Philadelphia General Hospital; Willis F. Manges, Jefferson Medical College; William C. Pickett, Medico-Chirurgical College; Martin E. Reufuss, of Jefferson Medical College; G. Canby Robinson, Washington University, St. Louis; William M. Sweet, Jefferson Medical College; Corson White, Orthopedic Hospital, Philadelphia, and William Reynolds Wilson, Philadelphia.

Acute poisoning by wood alcohol; vitamines; metabolism and basal metabolism, endocrinology and lethargic encephalitis, have been presented in their latest aspect, and much of the former contents deemed obsolete has been left out, or newer aspects included.

Collaborators aiding in the revision of volume III are: Brooke M. Anspach, of Jefferson Medical College; Harold Barclay, of Bellevue Hospital; William Bierman, of Cornell Clinic; John R. Davies, Jr., Bryn Mawr Hospital; James Hendrie Lloyd, Philadelphia General Hospital; Edward U. Reed, Commander Medical Corps, U. S. Navy; Alec N. Thompson, American Hygiene Association; Creighton H. Turner, Jefferson Medical College.

The purpose of this third volume is to place the best aspect of treatment before the reader of the preceding volumes, and the whole has been brought up-to-date in an effort to present the latest results of medical practice and research to the subscriber.

The Anatomy of the Nervous System From the Standpoint of Development and Function. By Stephen Walter Ranson, M. D., Ph. D., Professor of Anatomy in the Northwestern University Medical School, Chicago. Cloth, 8vo, pages 305, with 260 Illustrations, some of them in colors. W. B. Saunders Company, Philadelphia and London.

This book ably discusses one of the most vital and yet one of the most neglected phases of knowledge requisite to the practice of the healing art. The ignorance of the medical profession of the subject to which the author has devoted his text is amazing. We recently interviewed several physicians believed to have a fair knowledge of the nervous system, and asked them to approximate the percentage of practicians who have a fair working knowledge of the anatomy and functions of the nervous system, and was variously told, "two per cent," "one-half of one per cent," "too small to be computed," "none," and "none but those who teach it, and but few of those." Appalling, when one comes to think of the responsibilities of the practician.

The book is timely, at any rate. It is to be hoped that the subject of psychology—not the stuff being exploited by the wandering lecturers, and peddled in "psychology clubs"—but that found in authentic texts of qualified writers, such as Atkinson, Brill, Fuller, MacArthur, Rosanoff, Dulap, McGarrison and Dercum, will become more general among physicians.

Essentials of Surgery. A Text-book of Surgery for Student and Graduate Nurses and for Those Interested in the Care of the Sick. By Archibald Leete McDonald, M. D., of the Johns Hopkins University. Forty-nine Illustrations. Second Edition, Revised. Cloth, 8vo., pages 293. J. B. Lippincott Company, Philadelphia and London. 1923.

Description of technique has been omitted from this revision, and the space used to insert information consistently belonging to the subject. A new chapter has been added, including a discussion of surgical gynecological lesions.

The text is divided into fifteen chapters, and a glossary. A glance at the table of contents will show the value of the book: Bacteria; Common Types of Local Infection, Portals of Entry; Effects of Specific Pathogenic Bacteria; Tumors or New-Growths; Wounds, Hemorrhage, Surgical Operations and Anesthesia; Bones and Articulations; Vascular, Lymphatic and Nervous Systems; The Head, Cranium and Face; The Neck, Cervical Region; Thoracic Cavity and Breast; The Abdominal Cavity, Walls and Peritoneum; The Gastro-Intestinal Organs, Stomach, Small and Large Intestine, Rectum, Anus and Vermiform Appendix; The Liver, Bile-Passages, Pancreas and Spleen; The Urinary Organs, Kidney, Ureter, Bladder and Urethra, and Surgical Lesions of the Uterus, Fallopian Tubes and Ovaries. The book is well written and well made mechanically.

Texas State Journal of Medicine

HOLMAN TAYLOR, EDITOR-IN-CHIEF
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Vol. XIX **September 1923** **No. 5**

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH OF TEXAS

Our Recent Post-Graduate Courses, according to reports, came up to expectations, which is saying a good deal for them. Our experience of last year, our first effort, had led us to anticipate a large attendance and satisfactory results from every viewpoint. There can now be no doubt concerning the success of this movement, and the advisability of pushing it to its highest development. That the medical profession is continuously in need of re-education is appreciated by most of us, and while courses such as those given at Baylor and the University of Texas, under the auspices of the State Medical Association, will necessarily be limited in their scope, undoubtedly they can be made to serve two important purposes, namely, to inspire us to greater things and to bring to practical demonstration new ideas we have gleaned from the literature. It is really remarkable the amount of instruction trained teachers can crowd into a limited space of time, particularly when the student is avid of information.

As has been remarked, in no other way can a vacation be made so profitable to the physician. Perhaps it would be better for him to take his gun and rod in hand and make for the tall timber and the swift running streams for a couple of weeks, but it requires both time and money to do that, more of each than most physicians are able to spare. It would probably be more satisfactory to spend several months in the large clinics of our country, but that is also out of reach of most of us, and those of us who can afford it will probably take such a course once in several years. It is not far to Dallas or Galveston, from most any section of the State, and neither trip will prove expensive. The time covered by these courses is brief—all too brief, in fact, and almost any doctor can be away from his work that long at that particular time of the year. There is no reason why both institutions should not be crowded to capacity each year. Indeed, they have been crowded, and but for prospective expansion of opportunities, the limit would now be placed at approximately the attendance this summer. Our advice to those who contemplate taking these courses next year, is to correspond in due time with the deans of the two institutions, and arrange in advance for their registration. The limit may be reached any time, and those who come after that will simply be out of luck.

From Baylor the reports are that those in attendance there expressed themselves as highly pleased with the work given. The dean expresses the opinion that the experimental stage in this work has been passed, and that the teachers have gained a working knowledge of the requirements of their students. They are looking forward to still better clinics and a more satisfactory course next year. Baylor has recently purchased a large, three-story brick building, formerly the Austin School, immediately adjoining the present medical college building, which will increase the teaching facilities of the institution considerably, including the post-graduate course. The new building will house the administrative offices, the library and the laboratories of pathology, bacteri-

ology, histology and embryology. The laboratory facilities will thus be practically doubled. The registration at Baylor was 22, as follows:

Drs. G. W. Greer, Whitesboro; E. G. Smith, Hemphill; W. W. Dunn and R. L. Mathews, Lufkin; J. W. Hawk, Hebron; B. H. Burnett, Hulen, Oklahoma; E. B. Stokes, Crockett; D. Hinkson, Everman; D. T. Bundy, Tyler; C. C. McClure, Jacksboro; Thos. S. Barkley, Rockdale; J. P. McAnulty and D. L. Hess, San Angelo; J. R. Sessums and T. F. Bryan, Dublin; F. D. Sims, Abbott; E. C. Blackwell, Gorman; D. B. Westerman, Dallas; J. W. Weiser, Rosenberg; L. K. Tainter, Fredericksburg; W. O. Funderburk and J. H. Paxton, Elkhart.

At the University of Texas there was a registration of 53. Dean Keiller states that, judging from the free expression of opinion on the part of those attending, the course at that institution was very much appreciated and very satisfactory. Dr. Keiller is planning for next year in the light of returns on a very exhaustive questionnaire circulated among those who have heretofore taken the work. He anticipates a still more successful effort next year. The courses apparently most popular this year were those in laboratory and *x*-ray diagnosis.

From the detailed report of the clinics, we summarize as follows:

In the medical service, eleven clinics were held, the following subjects being considered: Diabetes mellitus, pituitary disorders, gastric and duodenal ulcers, thyroid diseases, tabes dorsalis, epidemic encephalitis, chronic nephritis, cardiac arrhythmias, neural syphilis, pernicious anemia and cardiovascular hypertension and hypotension. During these clinics, purely theoretical and didactic considerations were reduced to the minimum and special effort was made to demonstrate the most modern methods of diagnosis, including laboratory methods, and treatment of the various diseases considered.

Medical ward rounds were made on five separate days. During these, small groups of physicians were taken through the wards by the different members of the staff for the purpose of bedside instruction.

The Laboratory of Clinical Medicine devoted two hours daily to instructing a small group of physicians in modern methods of laboratory diagnosis. The course consisted of instruction in blood counting, urinalysis, blood matching for transfusion, microscopical diagnosis for malaria and tuberculosis, examination of gastric contents and examinations of stools for parasites and ova.

In the Surgical Section there were operative clinics, case demonstrations and ward rounds, cadaver demonstrations of operative surgery and pathological conferences. The operative clinics covered the following subjects: Suprapubic cystotomy, local and sacral anesthesia; suprapubic prostatectomy, with local and sacral anesthesia; intussusception; cancer of the penis, with complete removal of the penis and glands of the groin; tetanus in a child, treatment and apparent recovery; inguinal and ventral hernia; injection of gasserian ganglion; demonstration of sacral anesthesia; trephining of the skull for depressed fracture; operations for goitre; fracture of the femur; bone tuberculosis, etc.

In Obstetrics and Gynecology, two methods of measurement of the female pelvis preliminary to confinement, were carefully gone over and the importance of the measurements of the transverse outlet emphasized, as well as the importance of the study of the pelvic measurements in connection with the antenatal measurements of the foetus.

In the same connection, the McDonald's Ahlfeld's and Perrett's methods of measuring the foetus in utero were carefully gone over and illustrated in the pregnant woman. The value of McDonald's measurement as indicating maturity and the weight of the foetus, were discussed.

The purpose of these measurements as justifying the induction of labor at term and as indicating the character of operation which would be necessary to deliver in the case of disproportion between the foetal head and the parturient canal, was discussed.

The gynecological clinic was grouped around two points: (1) Diagnosis of intrapelvic conditions, and the differentiation between ovarian cysts, fibromyomata of the uterus, pregnancy in utero and ectopic pregnancy. In this connection, three cases were shown and one operated on. (2) The question of hemorrhage was studied and discussed, and also illustrated by three cases, one of intramural fibroid producing the characteristic hemorrhage of the fibromyoma uterus of this class; another, carcinoma of the cervix, and the third, hemorrhage in connection with the child-bearing function in a woman during the child-bearing period. The last case proved to be an early, incomplete abortion, and presented also an aggravated laceration of the cervix, which was repaired.

The clinics covered pubiotomy; primary and secondary repair of the perineum; fibro-myoma of the uterus, in which radium was being used for the purpose of reducing hemorrhage preparatory to operation; fibro-myoma in connection with pregnancy, with operation.

In ophthalmology and otology there were numerous miscellaneous cases, covering refraction, conjunctivitis, keratitis, choroiditis, optic atrophy, cataract, chronic sinusitis, acute and chronic middle ear diseases, diseased tonsils, tumors and specific diseases of the larynx, such as lues and tuberculosis, and the like. Among the operations, there were cataract extractions, pterygia, enucleations, tonsillectomies, submucous resection, etc.

Section Officers and Committees Announced.—We are authorized by President Dr. Scott to publish the following list of section officers and committees, for his administration:

SECTION OFFICERS.

Section on Medicine and Diseases of Children.

Chairman, Dr. Joe E. Dildy, Brownwood.
Secretary, Dr. Jas. H. Agnew, Houston.

Section on Surgery.

Chairman, Dr. M. P. McElhannon, Belton.
Secretary, Dr. H. L. D. Kirkham, Houston.

Section on State Medicine and Public Hygiene.

Chairman, Dr. A. L. Lincecum, Dallas.
Secretary, Dr. H. L. Wilder, Clarendon.

Section on Gynecology and Obstetrics.

Chairman, Dr. Everett F. Jones, Wichita Falls.
Secretary, Dr. C. C. Cade, San Antonio.

Section on Ophthalmology, Otology, Rhinology and Laryngology.

Chairman, Dr. W. D. Jones, Dallas.
Secretary, Dr. Chas. P. Schenck, Fort Worth.

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Dr. M. F. Bledsoe (three years), Port Arthur.
Dr. W. B. Russ (three years), San Antonio.
Dr. Joe Becton (two years), Greenville.
Dr. S. E. Thompson (two years), Kerrville.
Dr. A. F. Beverly (two years), Austin.
Dr. C. M. Rosser (one year), Dallas.
Dr. I. C. Chase (one year), Fort Worth.
Dr. H. W. Cummings (one year), Hearne.

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Dr. Claude R. Scaff, Clarksville.
Dr. H. K. Hinde, San Angelo.

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Dr. A. O. Singleton, Galveston.
Dr. J. C. Anderson, Plainview.
Dr. A. I. Folsom, Dallas.
Dr. W. L. Brown, El Paso.

Committee on Health Problems in Education.

Dr. J. M. Frazier, Chairman, Belton.
Dr. W. A. King, San Antonio.
Dr. J. W. Torbett, Marlin.
Dr. J. H. Burnett, Kopperl.
Dr. Guy F. Witt, Dallas.

Committee on Revision of Constitution and By-Laws.

Dr. John T. Moore, Houston.
Dr. M. F. Bledsoe, Port Arthur.
Dr. F. P. Miller, El Paso.
Dr. W. B. Russ, San Antonio.
Dr. Winfred Wilson, Memphis.
Dr. A. C. Scott (ex-officio), Temple.
Dr. Joe Becton (ex-officio), Greenville.
Dr. Holman Taylor (ex-officio), Fort Worth.

SPECIAL DELEGATES.

Texas Member of the National Legislative Council.

Dr. M. F. Bledsoe, Port Arthur.

Texas Representative National Council on Medical Education.

Dr. M. L. Graves, Galveston.

Texas Delegate to the Association of American Medical Colleges.

Dr. Wm. Keiller, Galveston.

To the Texas Dental Society.

Dr. C. S. Venable, San Antonio.

To the Texas Pharmaceutical Association.
Dr. M. B. Stokes, Houston.

To the Arkansas Medical Society.
Dr. C. A. Smith, Texarkana.

To the Colorado State Medical Society.
Dr. John H. Foster, Houston.

To the Louisiana State Medical Society.
Dr. S. C. Red, Houston.

To the New Mexico State Medical Association.
Dr. R. B. Homan, El Paso.

To the Oklahoma State Medical Association.
Dr. C. M. Rosser, Dallas.

The Scientific Work of the Association, for the present at least, is in the hands of the scientific sections. There is a committee on Scientific Work, but its opportunities are under the present organization rather limited. The JOURNAL and the annual meetings constitute the vehicle for our scientific endeavors as an organization. The programs of the scientific sections furnish the principal part of the scientific articles for the JOURNAL. The post-graduate work inaugurated through our two teaching institutions is an important scientific factor, but for the present it is comparatively restricted; certainly, it is not so generally available to the members of the Association. Unquestionably, for the present we must depend upon our scientific sections for our scientific status.

It is the desire of President Dr. Scott that section officers organize their respective sections at once and begin to compile their programs. It is his hope that by beginning early, section officers will be able to work out for each section consistent discussions of pertinent and timely subjects, conveniently grouped. He desires to get entirely away from the practice heretofore more or less prevalent, of taking whatever contributions may be offered, within reason, and adding them to the program in the order received, without particular regard to the subjects discussed or the manner of their discussion. It has happened that the offerings have made fairly interesting and satisfactory programs, and that the number of papers really not worth while have been a minimum, but the idea is, not to depend on chance, but to build the programs from the beginning with a purpose in view, for the good of those who expect to attend the sessions, and those who will thereafter read the JOURNAL, and not so much for the good of the individual contributor. While it is true that the scientific status of the profession depends to a certain extent on the encouragement extended prospective contributors to give expression to their views, there is a limit to that sort of thing, and there is hardly any limit to the opportunities for improving the practical and scientific worth of the great bulk of the profession, who either attend the annual sessions or read the JOURNAL, or both.

We are requested to urge that if any of our readers have offers to make by way of contributions to the program, or if they know of those who could profitably contribute to the program, they at once communicate with the proper section chairman, or secretary. If they are in doubt as to the section, they may communicate with the State Secretary. Offers will be accepted tentatively, final selection being made when all offers are in hand, and in accordance with the plans of the sections and the length of time available for carrying them out. This is as it should be. It is sheer nonsense, and an imposition, to fill a scientific program with a lot of papers which are merely compilations of the simplest text-book discussions, or recitation of cases common to every physician who expects to participate in the discussion of the program. If our programs would take up the pertinent subjects of the day, with papers written by physicians competent to write them, the meetings would be more profitable than they sometimes are. That is not to say that case reports presenting unusual or interesting features, or that papers which group text-book matter in an attractive and unusual manner, so as to impress the hearer, or the reader, should be omitted from the program. Neither is it to say that papers or subjects not directly related to the main purpose of the program, should be refused. On the contrary, there is much advantage to accrue from variety, and section officers will not overlook that fact. Whatever else may be said, the fact remains that the time available to each section is limited, which means that the number of papers and the length of papers which may be presented must likewise be limited. It is a big job and we must all help to carry it to a fruitful finish.

In this connection, it should be remembered by all concerned, that our "Guests" must be invited by the President of the Association. No one else in the Association has that authority, not even section chairmen. Very naturally, the President will accede to any reasonable request, particularly from section chairmen, in the matter of selection of our guests. It is assumed that section chairmen will invite those who are established authorities along the principal lines of their respective section programs. If any member desires that a distinguished physician from outside of the State visit our annual session and contribute to one of the scientific programs, he should take the matter up with the President in ample time to enable him to

determine whether the proposed guest will be acceptable to the section concerned. Better still, the proposition should be put up to the section chairman to begin with, and permit him to make the request of the President that the individual concerned be invited to become a guest. It must be further considered that the Association does not pay any part of the expenses of its guests. It has heretofore happened that guests have been unofficially invited, to the embarrassment of all concerned. It has also happened that guests have been invited and allowed to accept under the impression that their expenses, or some part of them would be paid, likewise to the embarrassment of all concerned. It is well to have our attention called to these matters in the beginning.

The Importance of Committee Work in an organization such as ours is generally not realized. We are together but three days in the year, and during that time we must formulate our policies and determine just what work we will do during the next year. Manifestly, our House of Delegates and certainly our General Sessions, cannot discuss in three days the various problems we have to consider and must decide upon. We leave it to our committees to study these several problems throughout the year, and make decisions for us, the which we may or may not approve. When we meet we place our committee reports in the hands of still other committees, which give them new thought and enables us to view the subjects to be considered from new angles. This is the best makeshift possible under the circumstances, and it works very well when it works at all. But it does not work if the committees for the year have not performed their full duty, and the reference committee have not done their work well. We do not pay our committees, and we cannot, for that reason, quarrel with them a great deal when they fail us. Manifestly, we could not pay them, and it is equally evident that we cannot employ enough office help to carry on their work. Therefore, we will succeed or fail to the extent that our committees function.

President Dr. Scott assures us that his committees will work, if they know what to do. We will do our best to keep them busy by suggesting various activities for them. We bespeak the same service at the hands of our readers generally. We are sure committee chairmen will be pleased at any time to hear from members who have suggestions to make for the consideration of their committees. Indeed, they have a right to expect such suggestions from us, in view of our privilege of criticising them if they fail us. There is no such thing as a one-sided obligation. If a committee is obliged to work for us we are under obligations to give it the support and encouragement that it needs.

It will be remembered that the House of Delegates at Fort Worth last May authorized a thorough revision of our constitution and by-laws. It will be noted that this committee has been appointed and is ready to function. It is a good committee. It is made up of those who have served us well and faithfully and should know our requirements and how our present by-laws have worked, and how they may be remodeled to work better. Undoubtedly, there are those who have suggestions to make to this committee. There are a limited number of copies of the constitution and by-laws in the office of the State Secretary. He will mail them out upon request of members as long as they last. Suggestions to the committee should be as specifically related to the present by-laws as possible, and as clearly stated as possible. The committee will take care of the wording to be finally employed, if any suggestions thus offered are to be used. Our constitution and by-laws have proven very satisfactory for the most part, but there are discrepancies and conflicts which should be cured.

The Council on Legislation and Public Instruction has been greatly enlarged and given additional duties. The important duty of informing our people on the general subject of public health, including the importance of standardizing the practice of medicine, has been relegated to this Council, and the profession of the State have been called upon to rally to its support, morally and financially. The House of Delegates authorized the collection by volunteer subscription of sufficient funds to pay the expenses of the Council in this considerable enterprise. A per capita average of $5.00 has been set as a basis for this collection. The duty of raising this fund, including the arranging of all details, has been imposed upon the Board of Councilors, which will have the assistance of the Council on Legislation and Public Instruction in the matter of explaining to the profession the need of such educational campaign as is in contemplation. Now that the vacation period is about ended, doubtless the Board of Councilors will take up this work actively and aggressively.

It has been suggested that the Committee on Scientific Work be elevated to the status of a "Council," its members to be appointed one each year, and that it have more to do with formulating the scientific policies of the Association than at present, extending its

jurisdiction to include the compilation of the scientific program.

From the Bexar County Medical Society comes the plea that councilors be nominated by the districts which they serve, election to be by the House of Delegates as at present, and that councilors be not eligible for re-election.

There are other ideas to be considered, which we do not recall at this writing. There are still other ideas which might be considered and which should be suggested to the committee. Now is the time to do it.

In view of the intention to revise the duties of the Committee on Scientific Work, it seems to us that this committee has unusual opportunity of demonstrating what can be done. Many of us have felt all along that our scientific work has been slighted greatly. While it is true that scientific investigation can scarcely be done on an organization basis, and that investigators are few and far between and hardly ever to be corralled, at the same time there is opportunity for co-ordination of effort in the development of our own knowledge of science, and its practical application, and it is not outside the range of possibility that by organized effort we can develop investigations started by others or make suggestions that may be developed later on by ourselves or others. It depends on the originality, energy and ingenuity of those who have these matters in charge.

The committee on Medical Education and Hospital Standardization, have been continued, notwithstanding there seems to be little of practical value for them to do. The Committee on Medical Education developed the post-graduate instruction idea, which has proven so far most satisfactory, indeed. There are two medical colleges in the State, and both of them carry satisfactory ratings. This committee will have to find something else to do. It can still co-operate with the Board of Councilors and our medical colleges in putting on post-graduate courses, and can co-operate with the Committee on Scientific Work in numerous particulars, no doubt. The Committee on Hospital Standardization, in the absence of sufficient funds to employ an inspector of hospitals, must continue to advise the House of Delegates as to progress in the important work of bringing hospitals to standardized and satisfactory operation. It has been done to a limited extent, but it would seem out of the question to expect the members of this committee to inspect hospitals and report their deficiencies. There is entirely too much embarrassment and ill feeling to follow.

The Committee on Cancer has large plans for the year. It will promote proper observance of cancer month, which for Texas is November 15 to December 15. But the big idea with this committee is to make the movement a twelve-month proposition, and to promote public cancer meetings, where opportunity offers, at all times during the year. The committee will carefully select a list of qualified speakers, who will be prepared to go to the uttermost parts of the State in the interest of this great work. Liaison between this committee and the Council on Legislation and Public Instruction will be established at once. When the educational program of the Council gets under way, doubtless it will embrace many lectures on cancer, the lecturers being furnished by the cancer committee. As a matter of fact, there is no subject which gives better opportunity to discuss the need of standardizing the practice of medicine and educating doctors to the N'th degree, than cancer. Here, if anywhere in all the realm of medicine, the quack and faker has full opportunity to flourish. Cancer is considered by most of our people as a fatal malady any way, and when the quack fails to cure little is thought about it, other than that failure would have occurred no matter what line of treatment had been adopted. It does not occur to these victims of misplaced confidence that they might have been saved disaster had they consulted competent authority early enough in the course of the disease, and that in any instance they have been robbed. There is a hesitancy to make public the fact that there has been cancer in the family, no matter what the circumstances. We have an idea that the people of the State of Texas will learn something about cancer during the next several months.

Dr. Graves Appointed Trustee.—President Dr. Scott has selected Dr. Marvin L. Graves, of Galveston, to succeed Dr. C. M. Alexander, deceased, on the Board of Trustees, for the term expiring next May. He has accepted the appointment.

It is hardly worth while to comment on the fitness of this appointment. Dr. Graves is so well known to the great majority of our members, certainly to those who attend our annual sessions, that anything of value we might say would be purely of a statistical order. He is a native Texan (it is not necessary to state his age). He is a man of education, academic as well as medical, and at one time was a school teacher. Indeed, he is still a school teacher, being at this time a Professor in the Medical Department of the University of Texas. He is a graduate, with honors, of

the Bellevue Hospital Medical College, New York. He spent several of his early years in general practice in Waco, going from that city to San Antonio, where he assumed charge of the Southwestern Insane Asylum, under Governor Sayers, in 1898. After seven years' service to the State in this capacity, he accepted the position with the University of Texas that he now holds. As a representative physician and an accomplished member of our profession, he is all that we could demand.

Dr. Graves has served organized medicine long and well. He has occupied some official position with county, district or state organizations, almost continuously since the beginning of his professional career. He was a member of the committee which drew up the present constitution and by-laws of the State Association. He was our forty-sixth President, which honor was spontaneously conferred upon him at the San Antonio meeting, in 1913. He has been frequently a member of our House of Delegates, despite the fact that he has retired from the highest position we could give him. He has been a committeeman, or a delegate, or both, almost continuously since his retirement from the office of President. No duty is too arduous for him to undertake and no sacrifice too great for him to make. If additional qualifications are needed to recommend Dr. Graves to our membership as a worthy Trustee, we will continue this story in our next issue.

The Practice of Christian Science Medicine.—Dr. Chas. E. Humiston, 449 North Central Avenue, Chicago, Ill., chairman of the legislative committee of the Illinois State Medical Society, a past president of that organization, and for years one of the chief exponents of legitimate, ethical medicine in Illinois, is preparing a book on christian science from the medical point of view. It gives promise of being a most satisfactory discussion of this interesting problem of our times, and doubtless will be productive of much good.

But our purpose is not to laud this book in advance of its appearance. Dr. Humiston must have positive, provable data relating to cases treated by these people and resulting disastrously, which, with proper treatment, might easily have been saved. Physicians knowing of such instances, and they must be legion, will render a service to humanity by communicating the known facts to Dr. Humiston. It will be recognized that many cases of this character, although resulting unfavorably will not be useful because it may not easily be assumed that under proper treatment there would have been any benefit. The christian scientists can match such cases as this with alleged cures, and if we undertake to play with them this sort of a game of checkers, we will lose. The cases reported must be of such character as to make it clear to the reader who is not prejudiced one way or the other, that it would be far better to absolutely prohibit christian scientists from practicing medicine than to permit them to do so under any sort of restrictions. There are numerous cases of this character, of course. The identity of those reporting cases will not be divulged, if it is so requested.

Dr. Humiston is chairman of the committee of the American Medical Association appointed to confer with other organizations in an investigation of the sects in medicine, and he is well qualified to write on the subject he has in mind. It is to be hoped that he will receive the assistance he needs, and particularly from Texas.

Our readers will recall the fight on our Medical Practice Act made by the christian scientists during the recent regular session of the Legislature, and the division brought about in the political maneuvering between the rank and file of the christian scientists as a religious denomination and the christian science healers as professional practitioners of medicine. Indeed, had it not been for the professional element there would have been no controversy between the medical profession and the christian scientists. However foolish the belief of the christian scientists may appear to us, we have no disposition to criticise until they begin to presume upon their belief to the extent of violating the law, and not only the law but reason as well, and to, inadvertently or otherwise, injure people who are not in a position to prevent it. In this country people are granted the right and privilege of thinking and feeling and doing as they please, so long as they concern themselves only. It is only when they begin to impose upon their neighbors that the law steps in and seeks to make a division of rights. The christian scientist may do as he pleases in the matter of believing that there is no pain, or anything else, so long as his belief does not injure his neighbor. When he asserts with all of the earnestness of a fanatic that he can cure his neighbor of a disease which his neighbor thinks he has, he is misleading his neighbor, perhaps, and the law should prevent it. As it happens, the law can hardly do that, but the law can resort to the same principles and the same rules of reason that it applies to those who practice medicine on a legitimate basis, and that is what the medical profession proposes shall be done—that and nothing more.

In Texas the christian scientists may exercise the healing properties of prayer and to

their heart's content, but they may not charge for it. They are permitted to do these things, much as the ministers of the other religious denominations are permitted to pray for the moral and physical welfare of their communicants, and the supposition is that they may draw a salary for doing these things. The professional healers are not content to function in this manner. They desire rather to open offices and enter the practice of medicine, as do other doctors. There is more money in that sort of thing for the doctor without a conscience. They can do this very nicely and get by with it, in view of the expectation of the public that just so many people are going to die anyway, no matter what sort of attention they have, whether medical or spiritual, or both. Disaster is pointed to as one of the unavoidable incidents of life, and the christian scientists return the compliment to the medical profession when the doctor urges that distress in any given case is the result of treatment by prayer to the exclusion of scientific medical treatment. It soon comes to be a matter of the pot calling the kettle black. That the medical profession is becoming better educated and more competent to deal with extreme cases, is not so evident to the average individual. That christian science is slowly but surely falling by the wayside is likewise not clearly evident. The thing to do is to recite specific cases, such as will be convincing, and let the thoughtful reader draw his own conclusion. This, reverting to the original purpose of this discussion, is what Dr. Humiston proposes to do.

The educational campaign about to be undertaken by the medical profession of Texas, may involve the subject of christian science sooner or later. It might be well to file duplicate reports with the State Secretary.

Correction for the June Journal.—In the biographical sketch relating to our esteemed President, published in the June JOURNAL, on page 61 appears the rather astonishing statement that "Dr. Scott was married to Miss Maude Sherwood of Gainesville in 1899." In view of the fact that the subject of our sketch is a grandfather, it does seem that he was rather late in getting married. It was purely a matter of inadequate proof reading on our part. The figures should have been "1889."

So far as we are aware, no one has ever properly accounted for the occurrence of such errors as this in publications that are most careful to avoid them. Perhaps it more frequently is the case that glaring errors are permitted to go through than those of a minor character. Our apologies are extended, duly and constitutionally, to all concerned.

ORIGINAL ARTICLES

THE PITUITARY AND SOME OF ITS DISORDERS.*

BY

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The hypophysis, or pituitary, as it is more commonly called, occupies a position of ever increasing importance in the endocrine horizon. It is beyond question one of the most important of the ductless glands. Considering its small size and its reputed large influence in skeletal development, perhaps in carbohydrate metabolism and in its pathological roles, it may be said without serious question that it is the most important. It occupies an anatomical position of great importance in the opto-peduncular space. According to Cowdry[1], its weight is 65 cg. in adult males and in nullipara. The gland enlarges considerably in pregnancy. A. Gentili[2] has shown that in multiparous cows it may weigh as much as 460 mgms., being more than three times its normal size, and during this period the chromophobe cells appear to secrete great amounts of colloid. Jung[3] asserts that the diagnosis of the enlargement of the hypophysis during pregnancy is dependent upon the *x*-ray picture, and he thinks the sella turcica indicates marked enlargement, characterized by a distinct outward curve. This enlargement, together with its growth stimulus, disappears after pregnancy. Cowdry's measurements of the gland are as follows:

Length	1 cm.
Breadth	1 to 1½ cms.
Thickness	½ to 1 cm.

It rests in the sella turcica of the sphenoid and is connected by the infundibulum with the third ventricle. The bony bed is variable in size and position, often being flat in appearance and horizontal, and sometimes occupying an oblique position of several degrees. Keith gives the dimensions of the normal male sella turcica as follows:

Antero-post. diameter	10-12 mm.
Transverse diameter	14-15 mm.
Depth	8 mm.

Timme[4] has made a study of 24 cases of Mongolian idiots, with radiographs of the skull which "showed a peculiar change from the normal in the anterior portion of the fossa pituitaria. This change consisted of an excavation under the anterior clinoid process and presumably under the olivary process and optic groove, and the excavation communicated directly with the anterior portion

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 9, 1923.

EDITOR'S NOTE:—Bibliography will be included in author's reprints.

of the fossa itself." His inference is that "subnormal or disproportionate body growth with lack of genital development is due to the disturbance of the function of the anterior lobe," and may be responsible for this type of mental deficiency. However, Howe[5], in an *x*-ray study of forty normal skulls, declares that great variations, both in size and outline, are normally present and he does not think that the condition of the pituitary gland can be deduced from the size or shape of the sella, unless definite enlargement or absorption of bone is present. Enfield[6] studied 100 cases carefully, with roentgenograms, and states that the width of the normal sella varies from 6 mm. to 19 mm., and the depth from 3 mm. to 12 mm. He does not believe the size of the sella is proportionate to the size of the body, and considers positive evidence of erosion the only definite proof of sellar abnormality.

The gland is divided into two lobes, anterior and posterior, with a pars intermedia of epithelial structure. Branches of the internal carotids and small branches from the circle of Willis, constitute the blood supply. The anterior lobe is much larger, more vascular, to which its reddish color is due. The posterior lobe is smaller and of a greenish yellow color. The thin epithelial layer between the anterior and posterior lobes is known as the pars intermedia, and the smaller prolongation of the anterior lobe along the infundibulum is anatomically designated pars tuberalis, because of its projection towards the tuber cinereum. The innervation appears to be supplied by the carotid sympathetic plexus, and Dandy considers it sensory rather than vasomotor in function. Lymphatics appear to be present, but their method of drainage is little understood.

The juxtaposition of the pituitary to the optic chiasm, and its proximity to the cavernous sinus, the internal carotid artery and to the third, fourth and sixth nerves, particularly, give rise to important localizing symptoms. Cowdry points out that embryologically "the anterior lobe is derived from the ectodermal pouch of Rathke, which grows upward under the brain from the stomodeal epithelium" and "comes in contact with the infundibular process, a down growth from the third ventricle which ultimately forms the posterior lobe. The cranial portion of the gland becomes completely separated from the pharynx by the growth of the base of the skull and the formation of the sella turcica, the pharyngeal hypophysis being situated in the middle line near the junction of the nasal septum and the roof of the pharynx." He quotes Lewis in the statement that "this enlarges until middle life, when it becomes stationary." It may, in part, be responsible for some of the pituitary endocrine functions.

Biedl[7] disagrees entirely with the current conception of the anatomy and says that the pars intermedia, which is very small in amount, is a specific tissue. Another specific part of the hypophysis is the pars tuberalis. The pars anterior and the additional glands find their origin in the roof of the throat. The rest of the pituitary is of ectodermal origin. He considers the pars anterior as an endocrine organ and its secretion takes the form of lipoids and basophile and eosinophile cells and tethalin. The active principles of the pars posterior and pars intermedia are histamin like substances, and he thinks the removal of the gland may produce cachexia. Histologically the chromophil and chromophobe cells appear to be the basis of physiological activity of the gland. The chromophobe are called chief cells. The chromophil cells show both basophile and acidophile groups of cells.

Tilney[8] asserts that the specific function of these cells is not definitely known. The chief cells occupy largely the anterior lobe, while the acidophile cells are principally present in the posterior lobe. Both lobes, among other things, possess definite values, almost equal in quantity, of nitrogen, phosphorous and calcium, as pointed out by Frederick S. Hammett[9].

Efforts to discover the physiological function of the gland and its active principles, have been made by many experimenters in animal and man. Feeding experiments, with the whole gland or its constituent portions, have been undertaken with some degree of success. In 1916 Robertson[10] isolated tethalin, and demonstrated by feeding experiments that it produced the same effect on growth as anterior lobe, and also increase of tissue repair and stimulation of the growth of pathological tissues, such as carcinoma.

Goetsch[11] demonstrated the production of sexual precocity and stimulation of body growth in developing young rats by feeding definite quantities of anterior lobe. Cushing and Archer[12] demonstrated increased sexual activity produced by anterior lobe feeding. While tethalin is regarded by some as an impure mixture of lipoids, it undoubtedly has a large effect in stimulating body and sexual growth. Howell[13] demonstrated pressor substance in the posterior lobe, and Cushing believed the posterior lobe largely influenced carbohydrate metabolism, and that its secretion was discharged through the infundibulum into the third ventricle and thus into the cerebro-spinal fluid. Maurer and Lewis[14], however, reject this idea and

assert that the internal secretion of the posterior lobe passes into the blood vessels, and think they have demonstrated a specific type of granulation cells of the pars intermedia which represent the true secretion of this part of the gland.

The pars intermedia has also been asserted to possess properties which cause uterine contraction, and it is suggested that its hypofunction is responsible for diabetes insipidus. Barker and Mosenthal[15] found that the polyuria of diabetes insipidus could be diminished in quantity and raised in specific gravity and percentage of sodium chloride and nitrogen, by the injection of the extract of the pars posterior and intermedia. Lhermitte, however, is quoted by Hoskins as claiming that "hypophyseal polyuria is in reality caused by lesions of the tuber cinereum." Several authors have suggested histamin as the probable active agent, and Wanatabe and Crawford[16] considered the active pressor principle of the posterior lobe to be adrenin.

Herring[17] states that a pressor and depressor substance and a uterine contracting substance, are found in the posterior lobe. Fuhner[18] isolated hypophysin from the posterior lobe and regarded it as possessing a number of active principles. Pollock[19] states that hypophysin is a mydriatic in rabbits and acts on the myo-neural junction. Harvey Cushing's classical experiments, dating back more than a decade, demonstrated that the removal of the posterior lobe did not destroy life in experimented animals, though it frequently greatly modified the adipose, sexual and mental condition. Camus and Roussy[20] later established the fact that complete removal of the hypophysis was entirely compatible with life, though remarkable skeletal changes might occur with fat deposits, genital atrophy, falling of the hair, temporary glycosuria and polyuria, if the infundibulum or the adjacent optopeduncular space were injured. They did not believe that the hypophysis, *per se*, had anything to do with carbohydrate metabolism or with polyuria or glycosuria, this being in direct conflict with Cushing's belief that pars intermedia and pars posterior produced a dimunition of sugar tolerance by hyperactivity and increased sugar tolerance by hypoactivity.

Houssay, Hug and Malamud[21], experimented on dogs with reference to the hypophysis and carbohydrate metabolism, and came to the conclusion that "dogs with the hypophysis extirpated or with a lesion of the neighboring zone, generally have a normal tolerance for the injection of sugar, but some dogs with marked adiposo-genital dystrophy tolerate large doses of sugar. Glycemia and the percentage of glycogen in the muscles and liver are normal in hypophysectomized animals."

McKinlay[22], in researches into the effect of the extract of the posterior lobe on basal metabolism in normal individuals and in those with endocrine disturbances, injected subcutaneously pituitary extract in twelve normal persons, and eleven showed increase of the basal metabolic rate. In four cases of hypothroidism the injection of pituitary extract subcutaneously showed a reduction in the existing low basal metabolic rate. He concludes that normal persons and those with subnormal basal metabolism not dependent upon thyroid deficiency, show increased heat production upon the subcutaneous exhibition of pituitary extract.

The development by Goetsch in young rats of both sexes, of precocious sex maturity, larger organs, generally increased size and greater fecundity, all of which is brought about by feeding the anterior lobe, none of which is brought about by feeding the posterior lobe, is highly important. Indeed, the function of the latter appears to indicate injurious effects on sex development when freely administered.

Uhlenhuth[23] fed salamanders on the pituitary glands of cattle, and produced giantism, a strikingly similar condition to giantism in human beings, due to excessive function of the anterior lobe prior to epiphyseal union.

The work of Schmidt and May[24] indicates the possibility that a hormone is generated in the anterior lobe which stimulates the posterior lobe.

Keith believes the anterior lobe secretes a hormone which sensitizes osteoblasts at points of strain when muscular attachments are important and function freely, and hence enlargement occurs there. It would seem reasonable that the pressor substance demonstrated by Howell and the depressor substance demonstrated by Fuhner, in the posterior lobe in some way maintained tension balance. It is possible that the recent discoveries of Banting and Best, isolating insulin, the active principle of the Islands of Langerhans, which produces such an important influence in the metabolism of carbohydrates, may offer some support to the position of Camus and Roussy that carbohydrate metabolism is not influenced by the hypophysis.

In summing up the work of various authors, the weight of evidence inclines to the belief that the anterior lobe and particularly its active principle, tethalin, have a very large influence in body growth, sexual development and certain other functions, and

that the posterior lobe has perhaps definite, though disputed influence upon carbohydrate metabolism, the secretion of urine, the equilibrium of vascular tension, the activities of the smooth muscles of the body, the stimulation of the mammary secretion and perhaps with the anterior lobe, and effects upon the chemistry of the body not yet clearly understood. Clinical phenomena have been accumulating for many years, and point with great emphasis to disorders in structure and function of this important little gland in the production of several well known or unclearly defined diseases.

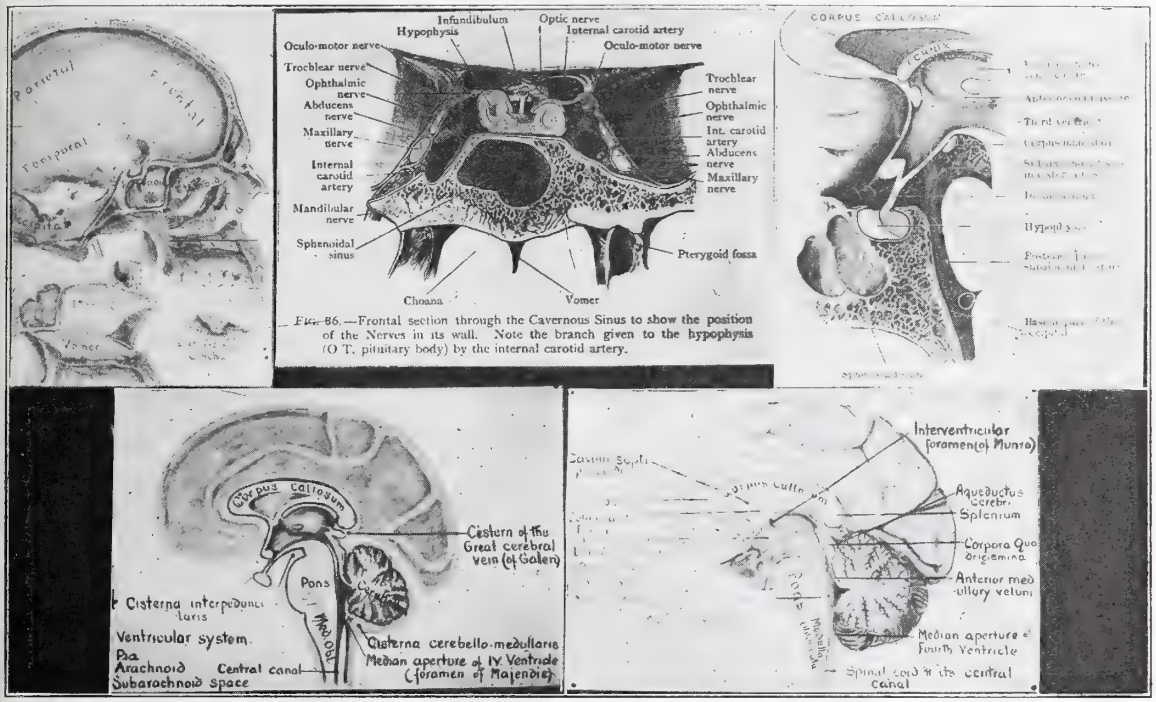

FIG. 86.—Frontal section through the Cavernous Sinus to show the position of the Nerves in its wall. Note the branch given to the hypophysis (O T. pituitary body) by the internal carotid artery.

FIG. 1.—Drawings by Dr. William Keiller. From the Anatomical Laboratory, Medical Department, University of Texas, Galveston.

Harvey G. Beck[25] in a comprehensive article on dystrophia adiposogenitalis, classifies the disturbance of function and the clinical syndromes dependent thereon as follows:

(1) Over function, hyperpituitrism. (a) Acromegaly; (b) Giantism.

(2) Under function, hypopituitrism. Dystrophia adiposogenitalis.

(3) Absence of function, apituitrism. Cachexia hypophysopriva.

(4) Perverted function, dyspituitrism. Mixed symptoms and compensatory disturbances in other endocrine glands, thyroid, gonads and adrenals. He asserts they are due to alteration of function produced by primary hypophysis disorder.

Hamann[26] would add osteitis osteoplastica, leontaisis ossea and Paget's Disease, to the skeletal overgrowths, like acromegaly, produced by hyperfunction. Krumbhaar[27] considers acromegaly the result of hyperfunction of the anterior lobe, after ossification of the epiphyses and expressed by increase in the acidophil cells. He offers a new terminology, dependent upon the time of development of the disturbance in function, as follows:

Hyper-prepituitrism; hypo-prepituitrism; hyper-post-pituitrism; hypo-post-pituitrism, and dyspituitrism, as clarifying functional disturbances.

The exact position is not certain of such disorders as pituitary headache, epilepsy, diabetes insipidus and the syndrome outlined by Morris and Weiss[28] of obesity, drowsiness, headache, frequent nocturia, loss of sexual power, impairment of memory, controlled for six years by posterior lobe extract, and the Fleiss[29] syndrome, described as being due to insufficiency of the anterior lobe and consisting of: (1) General fatigue; (2) lack of power of concentration; (3) polyuria, occasionally accompanied by enuresis; (4) occipital neuralgia, not infrequently accompanied by backache and sciatica, and (5) disturbances of menstruation, especially menorrhagia. He asserts that all of these symptoms disappear upon administration of the anterior lobe.

Englebach[30] emphasizes pituitary and other endocrine adiposities, and calls attention to the fact that obese individuals as a rule eat much less than individuals of normal weight and that their activities in reduction cures by diet, exercise and bathing produce little effect. He considers that such obesities are

in the majority of cases due to abnormalities in katabolism and not in anabolism, and that exercise and amount of food are not so important, but that it is the amount of food after being properly anabolized which is either stored in the body or broken down by katabolism and excreted, which produces the balance in weight. He considers the role of

FIG. 2.—Posterior Lobe Deficiency. Anterior and lateral views of patient in Case No. 1.

the internal secretions in regulating the rate of metabolic activity as the important factor. He classifies adiposity in a simple manner: (1) The age of incidence at which the obesity occurs; (2) the localization and distribution of the adiposity.

By way of comparison, he asserts that infantile adiposity, associated with overweight at birth, delayed dentition or delayed walking and talking are due to hypo-thyroidism, and are seen up to the third and fifth year. Juvenile adiposity occurring after the age of three or four, is due to insufficiency of the posterior lobe of the pituitary gland, though it may be associated also with hypothyroidism. Tileston[31] draws a sharp line and regards obesity as being an excess of weight over height and age standards above 15 per cent, and draws attention to Voit's normal standard of body adiposity of 18 per cent. Pettibone places the latter at 15 per cent. If one definitely excludes exogenous types of obesity and in the endogenous variety eliminates the thyrogenous, gonadal and pineal adiposities, it will be found that a large number of adipose individuals from the age of five to fifty or more, are due primarily to disordered function of the pituitary gland, with perhaps pluriglandular syndromes, as pointed out by Timme.

The following cases are intended to illustrate disorders of the pituitary function, either anterior or posterior or bilobar, together with illustrations of the location and anatomical relations of this small but important glandular organ for clearer understanding of its pathology and dependent clinical manifestations:

CASE REPORTS.

Case No. 1 (Fig. 2).—E. M., colored, female, age 29, complained of pains in the chest, nausea and vomiting, and gave a menstrual history of amenorrhoea for the past seven and a half months. Her family history showed the father to be living and well; his weight was 260 pounds. The mother was dead, her weight being 300 pounds. One brother living and well, weighing 176 pounds; one brother living and well, weighing 205 pounds. The paternal grandfather was a small man of normal weight; the paternal grandmother was fat, of low stature and weighed about 250 pounds. Two paternal uncles were fat, but weight was unknown. One paternal uncle was a small man of normal weight. Two paternal aunts were about the size of the patient, weighing something like 315 pounds. The maternal grandfather's size was unknown. Maternal grandmother was a very fat woman but weight unknown; one aunt very large and stout, and one uncle very large, weight not known but not excessively fat.

This patient had one child six years of age. Catamenia had been established at 13, was regular three days, of the 28-day type. She had never missed the menses except during pregnancy, and for one year

FIG. 3.—Posterior Lobe Deficiency, with Perhaps Beginning Ovarian Deficiency. Lateral and posterior views of patient in Case No. 2.

following the birth of her child. Seven and a half months ago the patient noticed cessation of the menses. Two months later nausea occurred after eating, and she had occasional vomiting. During the past year she had noticed pain in the left side, which was increased recently by the nausea and vomiting. The patient's weight is now 315 pounds. She was considered fat from childhood, but she never in-

creased especially in weight until after the birth of her child. Four years ago she weighed 225 pounds. She thinks she has gained 100 pounds during the last year. Her health, except for the above symptoms, for a period of seven and a half months, had been good. Physical examination revealed an abdominal tumor, about the size of a seven months' pregnancy; but owing to patient's size and obesity, examination was not considered to give positive results. *X*-ray pictures were taken on two occasions but showed no foetal bones.

This patient is evidently from an obese family, but she herself is not only not a hearty eater, but is a very moderate eater.

Diagnosis: Hypopituitrism, posterior lobe.[1]

Case No. 2 (Fig. 3).—M. F., colored, female, age 24 years; was an orphan and knew nothing whatever about her father, mother or any blood relatives. She

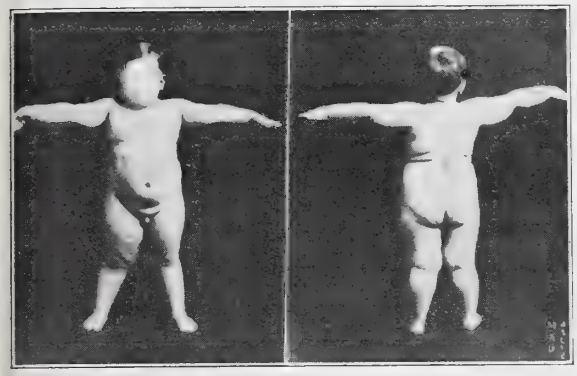

FIG. 4.—Posterior Lobe Deficiency. Anterior and posterior views of patient in Case No. 3.

had always had good health. Had been of normal size and weight until a year ago; moderate appetite; no bad habits, and no symptoms referable to any of the systems. Menstrual history shows catamenia began at 15 years, which had always been regular up to one year ago, except that she had a miscarriage at 18 years of age, of foetus of two months. Menses lasted five days up to one year ago. At that time her weight was 110 pounds and had never been more than that. She was taken sick with a severe frontal headache which lasted for three days, continuously. Following that she thought she had dropsy, as she was so swollen. On the fourth day of her illness she weighed herself and found that she weighed 140 pounds, the weight steadily increasing until on June 9, 1923, she weighed 172 pounds. Menstrual periods were irregular and scanty. Dizziness is present at times.

She was admitted to the hospital with a diagnosis of urticaria, having developed an eruption over the body, of an itchy character, a few days before. She also complained of shortness of breath, headache, and some pain in the chest. She gave a history of blindness occurring gradually at 15 years of age, lasting for about three months and gradually returning. She also gave a history of having had whooping cough during childhood, typhoid fever eight years ago, influenza one year ago, and the dengue eight months ago, pneumonia about seven years ago, severe headache lasting three days about one year ago; following that, her gain in weight.

Physical examination revealed a soft, blowing murmur at the apex, and harsh systolic murmur in the aorta. The blood pressure was 122/86. The Wassermann was positive, three plus with cholesternized antigen, and one plus with acetone insoluble antigen. Blood count: R. C., 3,680,000; W. C., 7,000; Hb., 55 per cent; Polys., 49 per cent; Lymphs., 45 per cent; large Monos., 4 per cent; Basophiles, 1 per cent; Trans., 1 per cent; urine, negative; Basal metabolism rate, —15.

Diagnosis: Lues and hypopituitrism, posterior lobe.

Case No. 3 (Fig. 4).—No history.

Case No. 4 (Fig. 5).—C. P. W., age 5 years; weight, 8¼ pounds at birth; forceps delivery. Father weighed 175 pounds, mother 165 pounds. Child normal in size, weight and development until three years of age; normal dentition, walking and talking. He had several infections during the first three years, including whooping cough, dengue, pneumonia and broncho-pneumonia. Following the last attack of broncho-pneumonia he began to gain rapidly in weight, being a fairly hearty eater and liking sweets. The deposit of fat appeared to be general, and steadily increased. His weight at the time of examination was 74 pounds, height 41½ inches, blood pressure 108/66, pulse 90. His excessive weight was about 34 pounds. Mammary and pubic girdles well developed; genitals considered small; hypoplasia not certain until puberty.

Diagnosis: Hypopituitrism, posterior lobe.

Case No. 5 (Courtesy of Dr. Rice).—S. G., colored, male, age 35; weight 365 pounds (varies between 350 and 365); blood pressure 160/110; pulse 90. Patient came complaining of weakness and pain in the flesh

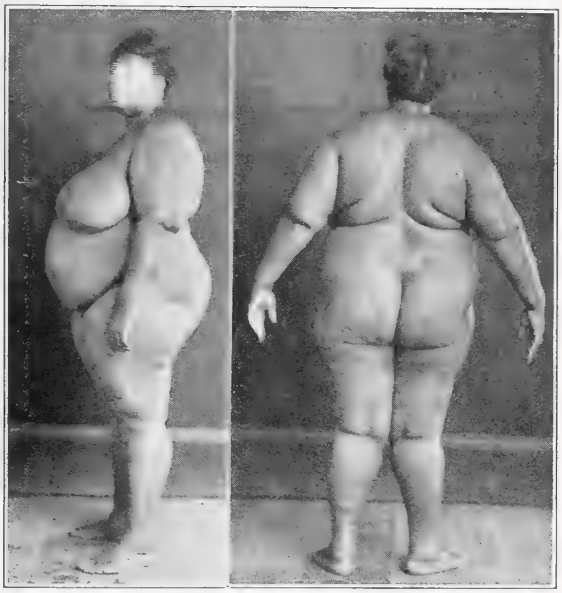

FIG. 5.—Posterior Lobe Deficiency. Lateral and posterior views of patient in Case No. 4.

of the legs. His father is living and weighs 185 pounds; mother living and of normal size; one brother living, weighing 215 pounds; two sisters weighing 200 and 170 pounds, respectively.

His personal history showed that he had pneumonia ten years ago, and supposed chancroid, with circumcision, one year ago. For eight months he had felt weak and unable to work. On August 25, 1922, the supposed chancroid was determined pathologically to be epithelioma. The penis was amputated. For three days he was given full diet before

1. Author's Note: Subsequent to the presentation of this paper at Fort Worth, this patient was instrumentally delivered of an eight months' foetus. She succumbed to dilatation of the heart within a few hours.

operation. He was kept in bed for two months, and pituitary substance, the whole gland, was administered, 1 gr., t. i. d., increasing to 5 gr. t. i. d., and finally 7 gr. t. i. d. November 12, 1922, his weight had been reduced to 287 pounds, a loss of 77 pounds between August and November, without change in

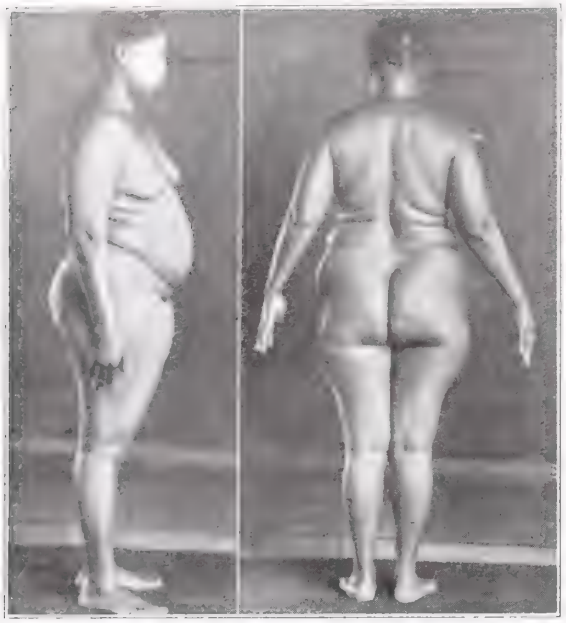

FIG. 6.—Posterior Lobe Deficiency, with Probable Ovarian Deficiency. Lateral and posterior views, Case No. 6.

diet, and with improvement in health. Blood pressure now registered 128/96.

Diagnosis: Hypopituitrism, posterior lobe.

Case No. 6 (Fig. 5).—Mrs. N. D., white, female, age 32. Personal history showed catamenia established at 13 and normal; 21-day intervals, 7 to 8-day periods. She has had seven children, normal births. Patient is 5 feet 7 inches high, weighs 198 pounds. Was a fat girl at 9 years of age; at 14 she weighed 155 pounds; at 17, her weight was 217 pounds; highest weight, 235 pounds. Her father is living and well and of normal size. Mother died at 38, of childbirth, and weighed 100 pounds. Patient is in poor physical health, having important pelvic pathology, mitral stenosis insufficiency. The cardiac lesions had followed attacks of rheumatic arthritis since 18 years of age.

Diagnosis: Hypopituitrism, posterior lobe.

The Pituitary Hormone.—So far the active principle of the pituitary gland has not been isolated. It is possible that the pituitary contains more than one physiologically potent constituent. Perhaps both pressor and depressor compounds are derivable from the gland structures. Abel and Rhuiller have prepared products from the infundibulum which have both vasomotor and oxytocic effects. These investigators believe that if the product is obtained in the pure state, it will be fifty times more active than histamin, and that there is but a single specific hormone in the infundibulum, and that this has both vasomotor and uterus-stimulating properties as well as a powerful effect on the kidneys. The hope of a speedy isolation of this pituitary hormone as a chemical entity is somewhat shattered by the fact that it is unstable in laboratory manipulations.—*Jour. A. M. A.*, Nov. 18, 1922.

SOME DISTURBANCES OF THE PITUITARY BODY ILLUSTRATED.*

BY

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The pituitary gland controls the body growth, sex development and function, body obesity, and many other characteristics. A great variety of symptoms can occur when its function is disturbed. These conditions present one of the most interesting studies in the field of endocrinology, and one which is of commanding importance in all branches of medicine. The growing appreciation of this importance and more careful examinations are disclosing an ever-increasing number of these disturbances in the general run of patients, and many heretofore obscure conditions have been explained.

The human pituitary gland weighs about $7\frac{1}{2}$ grains normally, and anatomically is made up of an anterior, an intermediate and a posterior part or lobe; but for practical or clinical purposes it is divided into an anterior or glandular lobe, and a posterior or nervous lobe. The former gives its secretion into the blood stream while the secretion of the latter is thought by some to pass into the cerebrospinal fluid, although this has not been definitely established. The careful research work of such men as Cushing, Homans, Goetsch, Bell and others, has done much to advance our knowledge of the physiology of the different hypophyseal lobes. It has been fairly well established that the anterior lobe controls the skeletal and sub-cuticular growth, muscle growth and tone, development and function of the sexual organs and appearance of the secondary sex characters; while the posterior lobe has a definite influence on the fat and sugar metabolism, contraction of smooth muscles, body temperature, blood pressure and pulse. We may have an underactivity or an overactivity of the anterior lobe, and underactivity or overactivity of the posterior lobe, or any combination of these. The symptomatology will depend on the state of activity of the different lobes and whether the condition is preadolescent or postadolescent. The body configuration, the type of head and hand, height comparison of long bone growth, with the torso, and the distribution of adipose tissue and body hair, are most important in the study of the pituitary cases.

Four recent cases will be presented here, each illustrating a definite pituitary condition:[1] (1) Illustrating the Loraine Levy

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 9, 1923.

1. EDITOR'S NOTE:—Selected from 17 cases reported by the author in his address before the section. These, or most of them, will be added to the author's reprints.

type; (2) pituitary obesity with pituitary headaches; (3) bilobar insufficiency with epilepsy; (4) Froelich's syndrome, secondary to tumor of the pituitary gland.

Case No. 1 is classified as anterior lobe insufficiency, preadolescent variety—the Loraine Levy type. This patient is 15 years old, 52 inches tall, as compared with 61 inches, the normal for this age. Weight 63 pounds. Normal weight for this age is 100. She has not menstruated. Her mother menstruated at 20 years of age; her aunt at 17. Attention is called to the short statue, masculine type of body and absence of pubic hair (Fig. 1). *X*-ray shows a sella turcica smaller than normal for this age (Fig. 2). Pituitary products were given by mouth and a short course of antuitrin by hypodermic. The patient had not menstruated when last seen, but had grown one inch in six weeks, and had gained 13 pounds.

Case No. 2.—Chief complaint in this case was obesity, with severe daily headaches. She was 13½ years old, and weighed 167 pounds. The normal for her age is 100 pounds. She has gained 30 pounds in one and one-half years. She first menstruated one year ago. Headaches began two years ago. Periods come every six weeks and are painless. This is typical girdle obesity, the adiposity extending to the lower third of the thigh and to the elbows but not affecting the lower leg or arm (fig. 5). *X*-ray shows a sella turcica about normal for this age (Fig. 4). A diagnosis of posterior lobe insufficiency with pituitary headaches was made. The use of pituitary products by mouth and hypodermic, relieved the headaches, but treatment has been very intermittent and the obesity has been unaffected.

The pathogenesis of pituitary headaches is by no means clear. One theory is that it results from tension in the pituitary capsule and another that pressure on the gland from an encroaching or small sella can cause it.

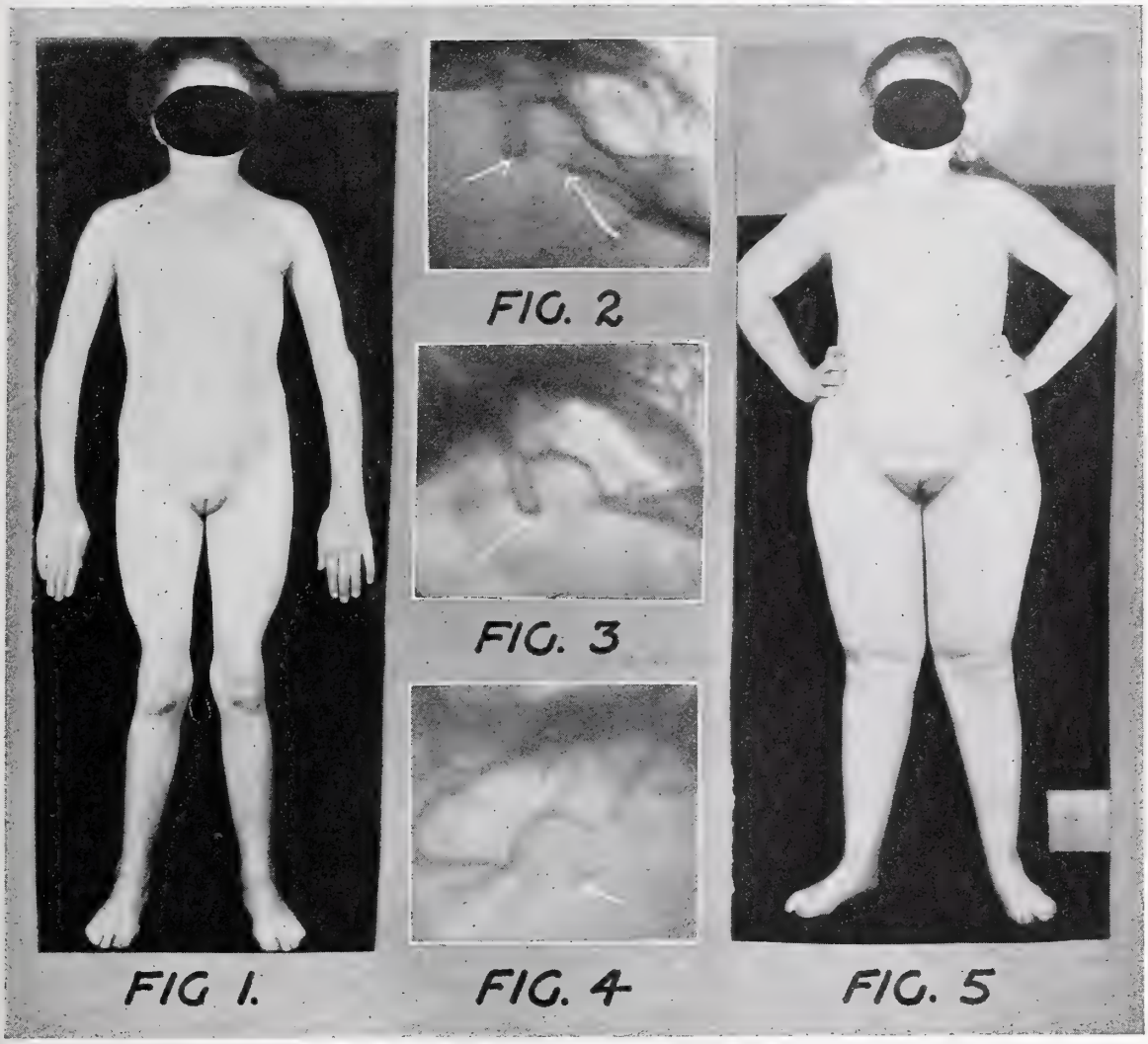

FIG. 1.—(Case No. 1). Anterior lobe insufficiency, preadolescent variety—the Loraine Levy type. Note short stature, masculine type of body and absence of pubic hair.

FIG. 2.—Sella turcica in Case No. 1. Note that it is smaller than the normal for this age (Fig. 3).

FIG. 3.—Normal size of sella turcica in Case No. 1 and Case No. 2.

FIG. 4.—Sella turcica in Case 2, which is about normal in size and shape.

FIG. 5.—(Case No. 2). Posterior lobe insufficiency, with pituitary headaches. Note typical girdle obesity, the adiposity extending to the lower third of the thigh and to the elbows, but not affecting the lower leg or arm. Sella turcica in this case about normal (Fig. 3).

Headaches practically never occur in primary anterior lobe conditions, but are very frequent in posterior lobe and bilobar insufficiencies, or when these are combined with hypothyroidism. Of course, it is nearly always present in tumors of the pituitary gland, being caused by intracranial pressure. Many cases of pituitary obesity respond quite satisfactorily to total pituitary powder by mouth, and pituitrin hypodermically. In one case, a girl 11 years old, weighing 133 pounds, lost 25 pounds. Another girl 15 years old went from 225 pounds to 195 pounds.

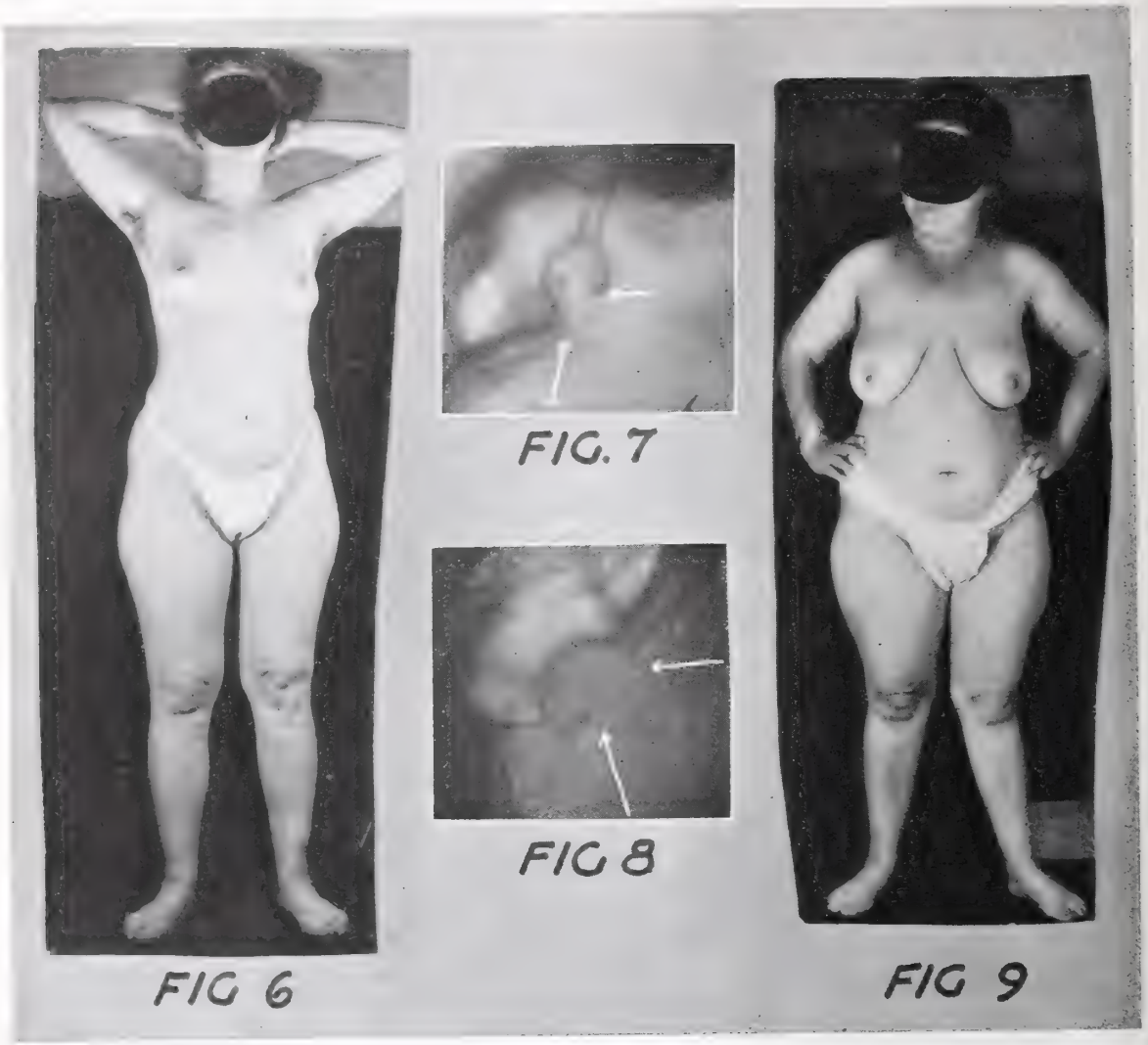

FIG. 6.—(Case No. 3). Typical pituitary insufficiency. Note the short stature, small head, marked girdle obesity, typical pituitary hand and spaced teeth. Sella turcica in this case much smaller than normal (Fig. 7). The history in this case shows lues and skull injury several years before, and epilepsy for three years before.

FIG. 7.—Sella turcica in Case No. 3. Note size, in comparison with Case No. 1 (Fig. 2).

FIG. 8.—Normal sella turcica for case shown in Figures 6 and 7 (Case No. 3).

FIG. 9.—(Case No. 4). Bilobar insufficiency with neoplasm of the pituitary gland. This patient has Von Recklinghausen's disease, or multiple fibromatosis, one of the fibroma affecting the pituitary body. Note typical picture of bilobar involvement—short stature, marked girdle obesity, pituitary type of hand, small round head, and spaced teeth. Sella turcica in this case was about normal in size.

Case No. 3.—This patient is 32 years of age. She has had epilepsy for three years. There is a history of lues and of skull injury several years ago. She menstruated at 15 years of age. The flow is always very scanty, sometimes lasting only one-half day. Had first convulsion just before labor, when she gave birth to an eight months' child that lived two days. About this time she gained weight from 111 pounds to 152 pounds. This is quite characteristic of pituitary insufficiencies. Note the short stature, small head, marked girdle obesity, typical pituitary hand and spaced teeth (Fig. 6). *X*-ray shows a sella turcica much smaller than normal (Fig. 7). A diagnosis of pituitary epilepsy with bilobar insufficiency was made. The results of treatment in this case are unknown, as the patient was only in for the examination.

Case No. 4.—This is a very interesting case of bilobar insufficiency with neoplasm of the pituitary gland. This patient has Von Recklinghausen's dis-

ease, or multiple fibromatosis, one of the fibroma affecting the pituitary body. There is almost complete blindness, constant ocular pain, optic atrophy and marked optic nerve absorption. There never has been any nausea, vomiting or other symptoms of intracranial pressure.

Family history is negative. Patient is 20 years old. She menstruated first at 9 years, and has always been irregular. The periods are painless. Note the typical picture of bilobar involvement—short stature (height 56 inches—normal about 65), marked girdle obesity, pituitary type of hand, small round head and spaced teeth (Fig 9).

Pituitary products were used in this case, but no benefit resulted. Later, Dr. Harvey Cushing operated, using Frazier's orbito-frontal route. He found a neuro-fibroma of the pituitary body, which had grown up and around the optic chiasm, causing the disturbance in vision. There has been no relief from symptoms.

X-ray shows a sella turcica about normal in size. Note the pituitary type of hand—small, with graceful, tapering fingers. "Spaced teeth" is rather a constant finding in hypo-pituitarism.

Many symptoms common with most of these patients have not been mentioned, such as asthenia, indefinite pain in the arms, legs or abdomen, feeling of shortness of breath, constipation, smooth, dry skin, tendency for flesh to bruise easily, and low blood pressure.

The effect of substitution treatment in pituitary cases is not certain. Some respond promptly and the results are quite satisfactory, while others receive but little benefit. In many cases of failure it is quite likely that the dose has been too small or not frequent enough. Undoubtedly, pituitary products are more effective when given by hypodermic than by mouth. A combination of the two is most effective.

ABSTRACT OF DISCUSSION.[2]

Dr. J. W. Torbett, Marlin: The activity of the pituitary gland tends to give a definite physical configuration, but after exhaustion of the gland, which often occurs later in life, the patient may still have the same physical makeup of teeth, height, size, etc., especially in the anterior and posterior pituitary types. This makes the diagnosis more difficult if one depends upon the patient's physical appearance. For instance, I had a case recently with very severe bitemporal and top headache, almost typical at first of the pituitary type. It was always accompanied with a very scant menstruation, begun at adolescence, and the headaches were so severe that a hysterectomy was done six years ago, with relief of these symptoms for four years. The patient was very large and tall; she once had considerable activity of the anterior lobe, as well, apparently, as a deficiency of the posterior lobe, but she didn't have the occular symptoms that usually go with the posterior pituitary deficiency type. Two years ago the severe headaches returned, with the nausea, periodically. There was no menstruation, of course, and it looked like one of those posterior deficiencies of the gland. The posterior lobe extract did not relieve, however. We did not have an opportunity to make a metabolism test, but she had the large rolls of lower abdominal and mammary fat, with slowed pulse and lowered metabolism, and the slight slowing of speech and lowered tolerance of proteins which is found in cases of hypothyroidism, and this suggested the possibility of hypothyroidism and gonadal inactivity. Hence, thyroid and ovarian substances combined, were given, and relief followed. She has gone nearly two years with only one spell of headache. She has lost thirty pounds, which shows the importance of taking into consideration the relationship of the entire endocrine system, the thyroid working on the pituitary, the pituitary working on the adrenal, and the adrenal working on the ovarian.

Another case seen about one year ago, and diagnosed by two of our best clinics as nephritis, on account of a trace of albumen, increased blood urea retention and constant regurgitation of food until she was very weak and emaciated. Other tests were normal. She was bright and nontoxic and there was no nausea. She was nearly fourteen years old but looked only ten, small skeletal development, no mammae nor secondary sexual characteristics. She was a good type of anterior pituitary deficiency—the Levi-Loraine type—with gonadal inactivity and neurotic pylorospasm. She was given two and a half grain tablets of anterior lobe and two grain tablets of ovarian substance, with rapid disappearance of all symptoms and a gain in weight, height and normal health. The diagnosis was made on the history and physical makeup, which is very valuable in early cases, and the results obtained show its accuracy.

Dr. M. L. Graves, Galveston: Undoubtedly the cases that have the intense, boring, bitemporal headaches, deep in the head, and which are sometimes associated with changes in blood pressure and other symptoms, may often be relieved by the administration of pituitrin, either by mouth or by mouth and hypodermatically, combined.

Lhermitte believes that diabetes insipidus is due to disturbance of the function of the pars tuberalis, that portion of the gland which passes up in front of the infundibulum.

Injuries frequently result in polyuria. One of my patients passed eight quarts of urine in twenty-four hours. This particular type of diabetes insipidus was brought out by Barker and Mosenthal in 1917. They showed that the administration of the pituitary extract from the pars posterior and pars intermedia, by hypodermic injection, not particularly by the mouth, not only reduced the enormous quantity of urine the patient was passing, but increased its specific gravity and the amount of solids contained. I have tried it in several cases of diabetes insipidus, by the mouth alone, and received no beneficial results whatsoever. Since we have been administering it by intramuscular or subcutaneous injections, I have not had a typical case of diabetes insipidus. The next one I have, I will use the pars intermedia and pars posterior, and hope to get as good results as doctors Barker and Rosenthal reported.

Dr. C. S. White, Wichita Falls: We do not at present know the effect that imbalance of the endocrines produces, but we are far enough along to realize that it plays a very important part in the functioning of not only the glands affected, but all other organs of the body. What we who are engaged in work along this line want to know, and what we are interested in as much or more than anything else, is the determination of more distinct symptoms by which we may make diagnoses and differentiate between disfunction in the pituitary, the thyroid, the adrenal and other glands. Such papers as that of Doctor Graves is leading us to that end.

I realize that in nervous and mental diseases, the disfunction of these glands plays a very important part, but I am unable to make the diagnosis distinct, and, therefore, am not able to apply the proper remedies to the individual cases. But it will not be

2. Discussing papers by Dr. Graves and Dr. Wright, both preceding.

many years until we will have clear-cut symptoms, as clear-cut symptoms, possibly, as we have in the disfunction of many other organs, and it will result in the curing or benefiting of a great many cases which now are left without beneficial treatment.

Dr. W. L. Allison, Fort Worth: I rather expected Doctor Graves to say that the pituitary gland is the most important of the endocrine glands, because the more I learn, or think I learn, of the endocrine glands, the more I become convinced that the pituitary is probably the most important internal gland in the body, situated as it is at the bottom of the brain, and the top of the cord, and connected directly with the brain.

Doctor White spoke of its relation to mental and nervous diseases, and I have been very glad to see in the literature in the last year or two that those who do psychoanalysis and treat psychic situations, are beginning to use these endocrine products, and are reporting better results.

We have always thought that the thyroid was the most important gland in the body, but I am coming to believe, and I believe Doctor Graves does, that the pituitary is of equal if not more importance.

Dr. W. S. Horn, Fort Worth: There is one manifestation which has not been stressed as much as I think it should—one that is most difficult to recognize. I refer to menstrual disturbances, particularly painful menstruation, associated with a pure anterior lobe insufficiency. They are rather difficult to diagnose, and it requires a great deal of patience on the part of both the doctor and the patient, in order to get results; but these patients offer a splendid opportunity for us to give real relief, and at the same time learn something about the disturbances of the anterior lobe of the pituitary body. They usually suffer more or less pain in both lower quadrants, particularly in the right. They are usually diagnosed as appendicitis, and are sometimes operated on, but continue to have some pain. They go from one surgeon to another. They are told, "Your right ovary is causing your pain," and that ovary is taken out. That doesn't give relief, and the patient continues to have pain and lose weight. She gets discouraged; they go from one doctor to another, and from one clinic to another, and unless the condition is recognized, they don't get relief.

One young lady, 27 years old, has been having painful menstruation, more or less irregular, sometimes prolonged, sometimes periods of amenorrhea, but always pain in the right lower quadrant, and always worse at menstruation. That pain continued to increase in severity, and she continued in poor health. She was operated on six times: first, the appendix, then the ovary, then the stomach was tied up, then the colon, and then something else was done. Then the other ovary was taken out, but the menstrual cycle continued. She was curetted, then the uterus was cauterized with nitric acid, trying to stop menstruation. She had periods of menstruation when she thought she would die from the pain. Finally we decided to treat her with corpus luteum, hypodermically. It gave no relief. In desperation I began antuitrin, hypodermically. At first she received three doses a week, and began to improve. That has been practically a year. She continues to take antuitrin twice a week, hypodermically, and unless she does take it she relapses into painful menstruation again. When I saw her first, she weighed 95 pounds; about two months ago she weighed 133 pounds, and was up and perfectly well. Recently she omitted the hypodermics for six weeks and lost six pounds, and began to have pains again. That is the type of case it is very difficult to diagnose.

Another young lady, 22 years old, began having painful menstruation when she was 18 years old. She had constant pains in the right side, with frequent attacks, which were diagnosed as appendicitis. Appendectomy followed. Later the right ovary was removed. Still later she went to the Mayos', and they said there was nothing to do for her.

She fell into my hands last August. She received antuitrin, hypodermically, twice a week. She has increased from 109 to 136½ pounds in weight, the pain has disappeared, and she is up and has resumed her work as a stenographer. I saw this patient about two weeks ago, and I asked her if she wanted to take a chance again and take anterior pituitary substance by mouth. She said she would rather take it hypodermically, because she was more certain to get relief.

I would like to mention a case of diabetes insipidus. A rather tall, slender man, had had polyuria for six or eight years, I do not recall definitely. He was in poor health. He had a tumor of the sixth rib on the left side, which was excised. Microscopically it was mydinic, and because of the nervous eosinophil cells. I thought, perhaps, there might be some connection with the diabetes insipidus, but probably there was none.

This patient gets relief for about 18 hours with one c.c. of pituitrin. Unless he takes pituitrin, he passes from 15 to 18 quarts of urine in 24 hours. By taking one c.c. of pituitrin hypodermically once a day the volume is reduced to from three to five quarts, sometimes the effect lasting a little bit longer than others.

This patient has taught his son, who is about 17 or 18 years old, to give him the hypodermics, and he doesn't have to bother a doctor about it. He is the editor of a newspaper in one of our neighboring towns, and since I first saw him three years ago, he has gained 40 pounds in weight, is happy and the picture of health.

Dr. R. B. McBride, Dallas: Endocrinology has opened a great field for investigation, and much good will come from it when accurate information concerning the diagnosis and treatment of disturbances of the glands of internal secretion have been more nearly stabilized and better understood. Until this has been accomplished severe restrictions should be placed on the administration of glandular extracts, for great harm can be done by shotgun or pluriglandular and other equally improper glandular therapy. Those of us who have had the opportunity of using insulin in the treatment of diabetes mellitus while it was in the experimental stage, readily see the advantage of strict supervision of a new remedy, under proper conditions, until its value can be estimated and given out in a tangible and reliable form.

The pituitary is one of the most important of our so-called glands of internal secretion, and is essential to life. It is of major importance in the regulation of stature, of adolescent changes and of carbohydrate metabolism. Improper function of the anterior lobe may give rise to growth disturbances, genital infantilism and temperature anomalies, while loss of function of the posterior lobe and pars intermedia, gives rise to obesity, increased carbohydrate tolerance, polyuria and arterial hypotension. Along with dysfunction of the pituitary there is perverted function of other glands of internal secretion. In clinical hypopituitarism in the male the prostate fails to develop if the disease starts before puberty, and atrophies if the hypopituitarism has its onset after puberty. Experimental hypopituitarism is followed by sex infantilism. Recently Goetsch has shown that feeding anterior lobe pituitary to young rats hastens

the development of the prostate. The thyroid is influenced greatly by the pituitary, and so are other important endocrine structures. These relationships must be thoroughly understood before proper diagnosis can be made and helpful therapy instituted.

One of the results of pituitary dysfunction is diabetes insipidus. It seems definitely proven that this is due to hypofunction of the posterior lobe and pars intermedia. Five cases treated by us have responded well to hypodermic injection of pituitrin. In some cases it is necessary to repeat the treatment twice daily. As continued hypodermic medication is objectionable, we have employed the gland product by the mouth, and with very good results. Since this must pass the stomach unchanged we have given it in salol coated capsules. Best results are obtained by giving from one to three grains of the whole gland, combined with from one-eighth to one-half grain of the posterior lobe, three or four times per day. Polydipsia and polyuria are usually controlled by treatment. Spinal puncture has given good results.

Pituitary headache offers difficulty of diagnosis. It has three characteristics: its location, its duration and persistence, and its relief under specific medication. It is usually frontal or bitemporal, with the sensation of being behind the eyes and pressing on them. There is often a feeling of a movable object or bag of shot rolling within when the head is moved about. The ache is persistent, lasting from one-half hour to forty-eight hours. It may leave suddenly, especially after vomiting, to return, probably worse than before. These patients are not energetic and are often inclined to be more or less constantly sleepy. There may be loss of moral control. With this there are often other markings of dyspituitarism. If there is no neoplastic growth, treatment consists of the administration of pituitrin hypodermically, or one-fourth to five grains of the dessicated whole gland in salol-coated capsules, three or four times per day.

ETIOLOGICAL FACTORS IN BRONCHIAL ASTHMA.*

METHOD OF DETERMINATION.

BY

I. S. KAHN, M. D.,

SAN ANTONIO, TEXAS.

In our adult cases of occasional or chronic bronchial asthma, in most instances a definite history of hay fever can be secured antedating the asthmatic paroxysms. In most of the remainder, a history can be secured of nasal trouble susceptible of this interpretation. Inquiry in all cases, without exception, during the attacks, will reveal a history of attacks of sneezing, obstructed nasal breathing of coryza, commencing either immediately or a few hours or even days preceding the attack. In fact, most attacks are voluntarily ascribed by the patient to a very recent bad cold and bronchitis. The fact that these obstructed noses clear up with the relief of the asthma, and not until then, offers ample confirmation of this point. However, it must be admitted that in many of these cases, symptoms of vasomotor rhinitis will at times return without proceeding to the extent of producing asthma. Why, is not known—but certainly in the asthmatic, the one condition either precedes or accompanies the other. However, it must be admitted that only a certain percentage of hay fever cases of even extreme severity and duration, involute into typical asthma. Yet many of these patients during the attacks cough and complain of stuffy, tight chest sensations, capable of being interpreted as mild asthma.

The experience of practically all investigators in this line of work has led to a general agreement that bacterial infection plays either absolutely no role or an infinitesimal role in the production of bronchial asthma. The conception that bronchial asthma is not an organic disease entity, but merely a complication of an attending vasomotor rhinitis or hay fever, simplifies the problem immensely. The development of emphysema or chronic bronchitis, following frequently repeated asthmatic paroxysms, continuing over an appreciable period of time, does not mitigate this conclusion; it merely presents a condition to be controlled by appropriate treatment, subsequent to the removal of the offending factors.

We have little or no knowledge of the pathological conditions at the bottom of these peculiar hypersensitive states in these otherwise normal individuals, nor why a small percentage of individuals possess these idiosyncrasies, which are absent in most of us. For this reason, the various agents possible of producing hay fever or vasomotor rhinitis, become then of supreme importance; also the methods of their detection. Their removal gives us our only method of attacking the problem, taken together with active immunization against such factors as are impossible of environmental elimination following their positive identification.

Such exciting causal factors are now known to be of food origin, of drug origin, of mechanical excitation by various pungent chemicals, of pollen origin, from contact with various animal epithelial products, from orris and perfumed toilet powders and from environmental or occupational organic dusts. To be of diagnostic value in this connection, such products should produce vasomotor rhinitis or asthma by clinical or experimental contact, and should reveal evidences of their ability to excite cellular irritability by their introduction in weak alkaline dilutions into epithelial tissue resembling nasal mucosa, comparable to conditions actually present during the time of natural accidental application to the nasal mucous membrane.

The lower layers of the skin fulfill this histological requisite, and it has been my experience that where such correct factors are

*Read before the Section on State Medicine and Public Hygiene, State Medical Association of Texas, Fort Worth, May 9, 1923.

properly introduced by the intradermal tests, invariably the skin response, usually within a few minutes, is a distinct urticarial wheal with a surrounding erythematous area, often accompanied by pseudopod formation. The frequently used cutaneous scratch tests, except with such highly antigenic products as pollen extracts, do not fulfill this requisite. They will fail at times even with these, and should be discarded. Occasionally a moderate or severe systemic reaction will follow these intradermal tests. This should not occasion worry, as epinephrin is a perfect antidote and will relieve even severe reactions almost instantaneously if exhibited in proper dosage.

The routine use of large numbers of these possible antigenic factors by the skin tests, offers us an invaluable procedure for the detection of the actual specific causal agency or agencies. Only such extracts as produce this skin reaction need be considered in this connection. All others can be safely discarded.

It remains, then, only to secure a connection between these positive reactions and their appearance in the environment of the patient. In addition, for definite proof, must be secured either a history of vasomotor rhinitis or asthma upon accidental or experimental contact, the elimination of the attacks by their removal from the environment of the patient, or by failure of onset of the usual attacks upon contact following immunization by extracts of such presumed etiological factors.

For example, the following case is decidedly interesting:

B H. K., age 50, attorney, was first seen in January, 1923. He gave a history of severe vasomotor rhinitis for fifteen or twenty years, with occasional light attacks of asthma. The attacks lasted throughout the entire year, with only brief periods of relief. He had been in misery for weeks and presented a picture of intense suffering, using from six to twelve handkerchiefs a day. His history gave no clue as to the causal factor. Intradermal tests revealed strong positives to the grasses and cereals. The ragweed, animal hair and food tests were either negative or only slightly positive. The usual grass case by the middle of January should be clear without treatment of any kind, and for the moment this case was very puzzling, as contact with animal scales, proven negative in this case, is our common cause for nonseasonal hay fever, and no occupational dust could be of importance in this instance. Several months previously he had disposed of his cow and had had no contact with horses for years. An inspection of his home revealed a barn filled with Bermuda and Johnson grass hay. About January first he had spent an entire day pulling up Bermuda grass in his yard to store for hay, and his back yard was pretty well covered with dry and drying grass. He had been accustomed for years to work an hour or two almost daily in this barn or about his yard.

This grass contact was completely eliminated. The nose was kept filled with albolene for mechanical protection (not a bad idea in these cases), cereals were barred from his diet and he was kept outdoors, but away from grass as far as possible. This condition was so severe and had lasted for so many months that it required twenty-three days' treatment with epinephrin, from one to four times a day, before the nasal condition became normal. Since then there has been no recurrence, and a most distressing condition has been completely relieved for the first time in ten or fifteen years. Without the constant, repeated positive skin grass tests, the actual causal factor in this case would have been completely overlooked, owing to the fact that the real etiology was not seasonal, as it ordinarily is in such cases.

Frequently it is only by an exhaustive environmental study that it is possible to secure a connection between these tests and their appearance, either daily or occasionally in the life of the patient. Cases of vasomotor rhinitis or asthma distinctly limited to the spring of fall offer very little difficulty in diagnosis and often in treatment. Our trouble lies with the perennial, nonseasonal case. In my experience, these make up the larger percentage of such chronic asthmatics as are seen in San Antonio, and our ability is often taxed to the utmost to discover the etiology. In these cases, when the pollens are negative or slightly positive, by far the largest percentage will show decided positive reactions to the various animal epithelial derivative extracts, and the rest to extracts of house or occupational dusts. It has been my experience that a reaction to animal epithelial products is almost never limited to one species. Where a positive reaction is secured to one animal hair, similar positives of possibly less degree are secured to feathers and all other common hairs and furs, and it then becomes merely a question of detailed search as to which of these animal products or feathers the patient comes into contact with. Clinically, at times, this turns out to be merely feathers, and eradication of pillows and bedding so stuffed will eliminate promptly distressing symptoms of years duration. Even when such animal hair tests are definitely positive, we are at a loss at times in securing a definite etiology. Contact with horses is now not common in our urban population. Cats, dogs and rabbits, as house pets are of course more common, but may not enter at all into the environment of these cases. Such patients frequently have either discovered for themselves the production or increase of their discomfort from the use of feather pillows, or have previously discarded them upon medical advice, without, however, securing complete alleviation of their asthmatic attacks. I have found in several such cases that the attacks are due to poultry.

In most chronic cases of this type, a seasonal history of being decidedly worse in the winter is the rule. The important factor here

is, of course, wool, which even in San Antonio in winter is hard to control. I consider this probably the commonest cause of continued chronic asthma and asthmatoid bronchitis. I know of no one single exciting factor, unless it be wheat, that is more difficult to eradicate, entering, as it does, into bedding and clothing. Even here success will follow suitable precautions, and preseasonal immunization in my hands has proven decidedly practical. In support of this contention, I have found several cases of winter vasomotor rhinitis without asthma, by the skin and clinical tests, due to wool, with complete relief following its elimination.

When our allergic symptoms cannot be explained by the usual animal hair or pollen clinical or intracutaneous tests, occupational and environmental dusts should next be taken into consideration. These make up an intensely interesting group, frequently requiring considerable study for solution. Workers with wheat, woods and animal skins, naturally predominate.

Occasionally foods, common or uncommon, are causes of hay fever and asthma, more frequently in children. Recently I saw a four-year-old child who reacted to egg albumen in a dilution of 1:100,000.

Properly prepared material for making skin tests for all of these substances is available or easily prepared, and if the intradermal tests only are used in this connection, positive findings of greater or lesser degrees are practically invariably found. These skin tests are thus of invaluable assistance if a sufficient number are used. Taken by themselves, without reference to clinical history, environment, occupation or diet, they are misleading and worthless, as positive findings of hypersensitiveness may include agencies with which the patient seldom or never comes in contact, and which, hence, can have no practical bearing on the particular case in hand.

In this connection, however, some cases of spasmodic bronchial asthma are either only partially and a few not at all allergic in origin. I refer to the attacks whose onset can be definitely ascribed to contact with some pungent odor and whose attacks can be experimentally produced by such contact. Here, of course, the skin test will be positive only if there is a complicating allergic element, but I have met with one or two cases in which either such allergy could not be demonstrated or in which such allergic factors did not enter into the environment of the particular case. For this reason, a battery of such pungent oils or chemicals for testing purposes should be a part of the armament of diagnosticians doing this work.

The definite causal factors of a given case of asthma being known, their thorough, permanent elimination and a few days or weeks of the regular daily use of epinephrin, bring prompt relief if the patient is kept at rest sufficiently long to overcome any attending complicating emphysema. Where the causal agency is some common pollen, occupational dust or some essential food, such as egg or wheat, temporary abstention, with the use of epinephrin until relief has been secured for a few days or weeks, followed by immunization, is a decidedly successful procedure, provided proper care be used in the selection of dosages to avoid untoward reactions.

When, as is often the case, in the chronic asthmatic of years duration, not one but various members of all these causative groups enter into the etiology clinically, the occasional complexity of the problem becomes appreciable. However, taken all in all, giving due regard to all the details mentioned, I know of no chronic ailment which responds as quickly and consistently to correct treatment or in which so much can be promised the patient, as does bronchial asthma. I should say that in at least 85 per cent of the cases, no matter how long or how severe, total or approximately total relief from this most distressing affliction can be confidently promised, with marked amelioration of symptoms in the balance. Compare this with the results secured in tuberculosis.

ABSTRACT OF DISCUSSION.

Dr. Alvis E. Greer, Houston: The conception that bronchial asthma is an allergic condition has aided me greatly in handling these patients. In only two per cent of cases is a definite cutaneous reaction lacking in these cases. It is true that other factors often seem predominantly causative. I refer to such non-specific causes as cold, dampness, or a cold draught of air. But in these cases it is possible to find a definite allergen, and its removal will remove the subsequent susceptibility to cold and dampness. Of paramount importance is a carefully taken history. I want to stress the value of getting an exact history of the first attack, bearing in mind the season of onset, the time of day, relationship to meals, the environment, or whether it followed acute bronchitis or whooping cough. Where, as is so often the case, multiple sensitizing agents are operative and non-specific elements seemingly are causative, the history of the primary attack will often point the way to a clear-cut diagnosis.

It is my opinion that mechanical excitation of asthma by various pungent chemicals, and also the role of bacterial invader, the commonest of which are the streptococci, pneumococci, influenza bacilli and staphylococci, are only capable of exciting asthma if there is an underlying allergen present. This allergic substance may or may not be found by the clinician. It is true that wool may cause a seemingly seasonal augmentation of symptoms, but we must not forget that the ofttimes coexisting bronchitis and emphysema will of themselves increase the severity of the attacks. It has been proved that dust is specifically causative in some cases, and in such cases

typical cutaneous reactions may be obtained. The dust may be collected and allowed to soak in fourteen per cent alcohol for three days and then a drop of this solution injected under the skin. There is some danger in making these tests, in that severe constitutional reactions, even death, may result. I would advise the making of five tests, waiting fifteen minutes, and then making five more. In this way it is safe to make thirty tests during an afternoon session.

All in all, it is my feeling that we are now getting somewhere in the management of bronchial asthma. We must carefully rule out tuberculosis, enlarged mediastinal glands, cardio-renal disease and the chronic dyspnoea of chronic bronchitis and of chronic pulmonary emphysema. By exhaustive attention to the details of the history, antecedent and present, and physical examination, associated with careful testing for specific allergens, it is possible in a large percentage of cases to find the cause of bronchial asthma.

Dr. J. H. Black of Dallas: There are a few things I think might be said on this subject, because they illustrate some differences in experience which we have in different localities. Doctor Kahn takes up particularly the question of relationship of hay fever and asthma. In my experience there are a certain number of cases of definite asthma in which hay fever symptoms are presented; others give a history of hay fever for one or more years and then develop typical bronchial asthma; there are, however, a certain number of cases in which there is no history of nasal disturbance of any kind. These patients have sudden, acute onsets of asthma, without warning of any kind. Then there are the so-called "vasomotor rhinitis" cases. There is certainly a definite allergic cause which can be determined in most of these cases.

Another situation which has interested me profoundly is the apparent difference in the findings in different localities regarding what has been termed in the last few years, "asthmatic bronchitis," as differentiated from true bronchial asthma. It has been my experience in the past two years to see a number of cases, many of which were children ranging from three to ten years of age who had typical asthmatic bronchitis. If a history is taken in these cases, they may be traced to whooping cough, influenza, pneumonia, or respiratory infections of one type or another. Their attacks of dyspnoea are preceded by symptoms of a "cold" and do not occur without a "cold," and they have a lot of cough and abundant sputum. Their attacks are seasonal, predominantly in the winter months. Chest examination shows much moisture. I do not know whether it is simply because of our particular location that we have so many of these cases. It has been a very interesting thing to me to find so many cases in children, in contradistinction to the findings of other workers who report such cases largely restricted to the elderly.

The other situation which interests me a great deal is the fact that Dr. Kahn finds that a large proportion of his cases are either pollen or epidermal in origin, and he lays little stress upon the food proteins. Something over sixty per cent of our cases have been due to food proteins. Where they could be definitely traced, elimination from the diet has given relief. It would be interesting to me to know whether these differences are because my experience has been so limited, or whether it is due to difference in localities.

I think we are all going to agree with two points which Dr. Kahn made: That the intradermal method of testing is the only dependable one, and that the bacterial tests we have been using, looking for skin reactions, are undependable and that the bacterial protein is probably not allergic.

Dr. Kahn (closing): There are two methods that I did not mention in my paper for lack of time: One is the direct pollen examination method, and the other is the clinical. A glass slide covered with glycerin or vaseline, is placed on the patient's porch, and after it has stood for from eighteen to twenty-four hours one or two of these slides are examined microscopically. By studying the pollen thus caught, the grass, ragweed, tree and flower pollens can be identified as such. After a little practice one is able to differentiate between grass pollen, tree pollen and other pollens. That keeps us from making mistakes; and unless we can identify these pollens under a microscope, we are apt to make mistakes.

Now, the clinical method is decidedly interesting, and should be used in all cases. We want to prove our causes. It is not sufficiently satisfactory to say that our skin tests are positive. The clinical tests of contact with suspected substances should produce asthma. Day before yesterday I saw in San Antonio a man seventy-three years old who had been treated in Chicago and diagnosed as a case of high blood pressure. He had not been free from asthma for three or four months. In talking to him—it was a hospital case, and he suffered pretty badly—it struck me that this was probably a wool case. He had had adrenalin treatment. He told me that a previous chest examination had produced asthma. The undershirt was pulled up around his face for a few minutes while I listened to his heart, and he went off into a wild attack of asthma which took me four hours to overcome. A clinical test of this kind is extremely valuable.

INFLUENCE (?) OF ENDOCRINES ON LENTICULAR OPACITIES.*

BY

I. L. VAN ZANDT, M. D.,
FORT WORTH, TEXAS.

The question in my title may be either etiologic or therapeutic or both. Does an unbalance of endocrines cause the opacity? Does the correction of that condition remove or lessen the opacity?

This study is prompted by a personal experience of the last twelve months. As a basis for it I shall give a rather detailed life history.

My father, the oldest child, died of yellow fever at the age of thirty-four, both of his parents having been dead several years. His mother probably died of tuberculosis, as did three of his sisters later. My maternal grandfather died from a tree falling on him when fifty-six years old. His wife died at ninety-three. My mother died at ninety-three.

Six children were born to my parents. One died at nine months, of dysentery. The others are living, 79, 81, 83, 86 and 88 years of age, respectively. During my infancy I was thought to be near death from "bowel

*Read before the Section on Ophthalmology, Otology, Rhinology and Laryngology, State Medical Association of Texas, Fort Worth, May 10, 1923.

trouble." During childhood I had whooping cough, measles and mumps, and typhoid fever at sixteen. During the next fifty years I do not think I lost fifty days from sickness. Up to the age of forty-five I had a few malarial chills at long intervals. I have had several accidents, broken ribs, sprained ankles and contused knees, severe enough to disable me for a time, but not serious enough to cripple my vitality. I have had six attacks of erysipelas, coming on my face, four covering my scalp also. Four of these have come in the last eight and a half years. None made me very sick. I had dengue in 1865 and again in 1922. The latter attack was the most threatening sickness since the typhoid fever.

When I came to the years of discretion I found myself constipated, with two or three hemorrhoidal tumors. This tendency to constipation has followed me through life. When I had plenty of exercise on foot and not too constantly in the saddle, it gave me little trouble, but when I exchanged saddle for buggy, with less exercise, constant watching became necessary. Some fifteen or twenty years ago I became conscious that too much lean meat gave me a sluggish, stuffed-up feeling, the so-called "biliousness." Soon after this I became interested in indican as evidence of the putrefaction of proteids in the intestine. This explained to me the cause of my former malaise, and showed the way to avoid it. As a consequence I now live on fruits, vegetables (raw and cooked), milk and cereals, with wheat brand as a peristaltic persuader, using very little lean meat or eggs.

In May, 1910, I was attacked by a very severe diarrhoea, which troubled me more or less for several years. It was associated with much flatus of an abominable odor, and physical weakness, with mental inertia. A year later, on a very hot day, when I was feeling very much depressed, I discovered a symmetrical redness on the backs of my hands. I then concluded that the bowel trouble, beginning a year before, was the initial stage of pellagra. In a few days I began taking soamin, which I had seen recommended by Dr. E. H. Martin of Hot Springs, Ark., now deceased. This gave very prompt relief, as has been the case several times since, on recurrence of the symptoms. One time, after a protracted taking of soamin, I was free from the symptoms for almost three years.

A few years ago, when it became fashionable to talk, read and write about ductless glands, I realized that for many years I had been short on thyroid. This opinion was based on the following syndrome: Low temperature, nearly always subnormal, and sometimes as low as 94°; slow pulse, frequently, when quiet, down to 50, and falling of the hair, I having become decidedly bald, body and limbs being similarly affected. Beginning in January, 1915, I took thyroid for a month or more, commencing with one-quarter grain three times a day. A quarter grain was added to the daily amount every three days, continuing until one grain was taken three times daily. Above this dose I did not go. In March it was discovered that a new suit of hair was coming on my bald scalp, also on my body and limbs, except where the hair follicles were beyond repair.

Some three years ago I found, by accident, that I had a very irregular pulse, with many missing beats. A test showed my blood pressure 100, with tendency to syncope. Again I took thyroid in a similar manner. Benefit came very promptly. After considerable improvement had occurred, I became careless and found that if a morning and noon dose had been omitted, the pulse became irregular by night. Forgetting my supper dose one night, I took it at late bedtime, when my stomach was empty. In the morning, when I woke I could feel the pulsations to the finger tips. I discontinued the treatment.

During the first week in December, 1920, there came to me a postcard advising a pluriglandular extract "for patients who have had influenza and complain of nothing but weakness." That was my condition and I took it. It picked me up very promptly.

I began wearing glasses for reading at about 46 years of age. At 56 I had a most satisfactory fitting. Seven years later I was holding my paper further from me and thinking to change my glasses soon, but instead the eyes reversed their action and my paper came back to me. Then I began to write prescriptions without glasses; also to read for a short time. At the same time my distant vision became very poor. I failed to recognize my friends on the street. I then had glasses fitted for nearsightedness. I was then seventy, having used the old glasses for about fourteen years.

Cataract was suspected in 1912, and double cataract diagnosed in 1913. When I was in good health the cataracts seemed to be stationary, but progressed when my health was bad, and I began to look forward to the time when I could no longer read—not a pleasant prospect to one reading six or eight hours daily.

Now as to the personal experience of which I spoke in the beginning. In the spring of last year I began to have the weak feeling as of pellagra, and took soamin, without the relief it had uniformly given me. I then consulted a doctor. My blood pressure was 130:60, with many missing pulse beats. The doctor

thought my blood pressure was probably "too low for *me*," and suggested adrenal. I took the preparation which had served so well before. In a week the blood pressure was 120, and in another week it was 110. It was the wrong medicine. I thought, from past experience, that I needed thyroid and so said. My doctor suggested a tablet of which he had a sample bottle. Each tablet contained 1/20 grain whole pituitary, 1/10 grain thyroid with testicular and ovarian substance. Of these I took two tablets three times daily. Improvement began at once. The pulse became regular, with blood pressure about 140, and I was feeling fine. There was less tendency to constipation and proteids were better borne. This was interrupted by the dengue in October, since which time my condition has been less stable. We later saw fit to increase the thyroid. I then generally took a half grain with one of the tablets at a dose—but varying at times.

Not many weeks after beginning the use of the tablets, I was surprised on looking out of a high window on a clear day, to see clearly the landscape six or eight miles distant, without any haziness, to which I had been long accustomed. It seemed as clear as when I came to this country of magnificent distances, fifty-seven years ago. In reading, where the page was irregularly shadowed and letters blurred, the page is now unmarred and every letter distinct.

For fifty years I have been doing a little coarse miscroscopy, but had concluded that my days for this were over. The field was filled with numerous criss-cross water lines with spaces between, through which I could sometimes recognize pus or blood cells. A few weeks ago, having a cloudy speciman of urine for examination, I concluded to try if I could see anything before taking it to someone else. Imagine my surprise when on looking into the microscope I saw only as it were a piece of white paper, not a line or a blur. Moving the slide, a beautiful (most beautiful to me) crystal came in sight, with every side and angle showing clearly. I am sure that my microscopic vision has not been so good in twenty years.

I have spoken in general terms about my vision. The records of my ophthalmologist are interesting. He records that in 1917 the left eye only was fitted, the right was given a plain glass—no measure of acuity; Feb. 18, 1920, right 20/200, left 20/25; Sept. 22, 1920, right 20/50, left 20/20. The last examination was made by Dr. H. L. Harley, now of Atlantic City, who wrote "Opthalmological examination unsatisfactory; lenses too dense to see the fundus."

Notice the sharp changes occurring between February and September, 1920, in both eyes. What caused this? While I cannot absolutely affirm it, the available data and my own memory indicate that about May between the dates, I was taking thyroid, one grain, two or three times a day, having gradually attained to this dose from 1/4 grain three times daily. My latest record shows a normal vision in the left eye and 20-35 in the right. With this right eye I can read fairly well type a little larger than that of an ordinary newspaper, and can see the second hand of a watch, to count the pulse. Also, at the distance of a mile, I can see distinctly the windows in a large white building. The improvement seems to continue.

For the "before and after taking," I refer to the subjoined note of Dr. R. B. Sellers, of Fort Worth:

"I first examined Dr. Van Zandt's eyes about ten years ago and found a beginning cataract in each eye. The right was further advanced. Repeated examination showed more advancement in the right eye, which continued until in after years there was very little useful vision in that eye. As the years passed, the thickening in the left eye took the form of a pyramid in the central field, or an inverted V, which has now changed to a body like " \," the right wing of the pyramid being practically dissolved except for a few dots in the lens in place of the heavy, thick body or right side of the pyramid, thus permitting him to see more clearly through a light streak that did not formerly exist. Through this the fundus and its blood vessels can well be seen. The opacities in the right lense are also clearing, so that it shows red, though the details of the fundus cannot be examined."

Now, it occurs to me that this record is worth while. It seems to me that the matter is worthy of further study. Was it a mere coincidence that my eyesight became better while I was taking these glands of internal secretion? Was the betterment due to this correction of an unbalance? And if so, would this correction of this unbalance in its incipiency not have prevented the opacities? If a result and not a coincidence, what was the active agent or agents?

The count of my years suggests that *my* time is too short for the task of answering these questions. I am therefore turning the matter over to you, hoping that some of you will assume the task. I would suggest the idea that thyroid *per se* is the active agent; that the testicular and pituitary substances are adjuvants, made necessary by the infirmities of age.

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NASAL GANGLION NEUROSIS: OBSERVATIONS AS TO POSSIBLE ENDOCRINE ASPECTS.

BY

CHAS. B. WILLIAMS, M. D.,
MINERAL WELLS, TEXAS.

I am convinced that nasal ganglion neurosis in one or more of its subtle manifestations, is much more common than we at first thought might suspect. I am also convinced that despite the graphic description given by Sluder[1], portraying this disturbance from its simplest form as an isolated symptom to his complex "lower half headache," and discussed from time to time in the literature by different writers, many cases are passed by unrecognized. Sluder began calling attention to symptoms referable to neurosis of the nasal ganglion as early as 1908. He divides them into neuralgic and sympathetic. I shall not take time to more than briefly mention these symptoms, with which you are doubtless as familiar as I.

The neuralgic consists of pain in and about the eye, upper jaw, zygoma, ear, back of mastoid and occiput, sometimes radiating to the scapula, shoulder and down the arm, often to the fingers. A stiffness of the neck is frequently complained of—also itching or burning of the hard palate. All or only a part of these symptoms may be present.

The sympathetic consists in vasomotor and secretory disturbances, manifesting themselves as attacks of sneezing, rhinorrhea, photophobia, lachrymation and possibly as asthma.

As isolated symptoms of one or the other types, Sluder[2] has recently mentioned glossodynia, otalgia, nausea, paraguesia, vertigo, scotoma, photophobia, rhinorrhea and asthma.

I have repeatedly demonstrated otalgia as an isolated symptom, and at present it is my routine in earache from tubal or middle ear involvement, to try control of the pain through applications of cocain to the nasal ganglion rather than through instillations in the ear.

Located, as I am, in a health resort, where patients drift in from all parts of the land, I naturally come in contact with many asthenics, and for the past two or three years I've made it a rule to study all of these cases from an endocrine standpoint, feeling positive that in this field lies help of a very material sort.

In a few pronounced cases of nasal ganglion neurosis (neuralgic type) which have come under my care during the past year or so, I have elicited, as well as my limited knowledge of endocrinology would permit, all symptoms possible bearing on endocrine imbalance. In every case so studied I have found what to my mind appears conclusive proof of the existence of such, some appearing as hypo and others as hyper conditions. Whether this imbalance is causative, resultant or merely an associated condition, I cannot say, but I do believe that efforts to restore endocrine balance are of distinct value where an imbalance exists.

REPORT OF CASES.

Case No. 1.—E. J. A., age 53, white, of foreign parentage, gave a history of insanity in two or three near relatives. For nineteen years he held responsible position on the Subway in New York City, having 250 men in his charge. Several years ago he began having headaches, which became so severe and constant two and one-half years ago that he had to give up work. The company for which he worked had him thoroughly examined, including Wassermann's, tuberculosis tests and some fifteen x-ray pictures. Some character of operation was done on the nose and the tonsils were enucleated. He had been told that he was going crazy, and he felt at times as if it were true. When sitting quietly he would go to sleep at any time, in spite of excruciating pain in the head.

I first saw him September 2, 1922, two and one-half years after he had been forced to give up his work, during which time he had drifted from place to place seeking relief. At this time he gave an almost typical picture of Sluder's "lower half headache"—pain in and about the right eye (less on left side), temple, ear, back of mastoid, occiput, upper jaw and stiffness in the neck and shoulder. Pain was present during waking hours, but not severe enough at night to materially interfere with sleep, except at times. He had recently had some intestinal disturbance, which had received attention. Constipation was pronounced. Blood pressure at this time (from Dr. J. H. Eastland's records) was systolic 96, diastolic 140.

Coming with a history of such thorough examinations, and presenting the typical picture of nasal ganglion pain, I at once applied cocain to both ganglia to see if it would influence the pain. The first application gave complete relief for several hours, while the second kept him comfortable for twenty-four hours. Daily applications of silver nitrate (2 per cent to 20 per cent) for two weeks gradually reduced the pain until he was free from it most of the time, but he complained of a peculiar dizziness and of general weakness and "down and out" feeling. Transillumination of the sinuses, suction and use of Holme's naso-pharyngoscope, revealed nothing of note. Cutaneous tests for protein sensitization to commoner foods were negative.

Taking as a basis for diagnosis of endocrine involvement, his general asthenic condition—complaint of weakness and being tired all of the time, slow pulse, ranging from 63 to 70, constipation, cold hands and feet, coupled with generalized nervous manifestations, I began administration pluriglandular extracts, including thyroid, adrenals and pituitary. After about a month the patient reported that he was feeling stronger and better generally. But for an intercurrent attack of dengue, which gave a temporary setback, improvement was steady until February 25, 1923, at which time he said he felt able to

*Read before the Section on Ophthalmology, Otology, Rhinology and Laryngology, State Medical Association of Texas, Fort Worth, May 9, 1923.

1. Sluder, Greenfield: (?)
2. Sluder, Greenfield: Jour. A. M. A., Dec. 2, 1922.

take up some kind of work again, which he left the city to do.

Case No. 2.—Mrs. A. L. C., age 67, neurasthenic type, but bright and quick mentally, November 27, 1922, gave a history of having suffered from neuralgic disturbances since childhood. For the past few years she has rarely been free from pain, which is always exaggerated in cold, damp weather. Within the last three years she has had thorough physical examinations in New York City, Washington, D. C., and Atlanta, Georgia, which included roentgenograms and transilluminations of paranasal sinuses, blood tests, etc. She was under the care of a gastro-enterologist a few years ago, whose diagnosis was colitis. Pain, which has been almost constant for the past two or three years, was described as being around the right eye, down the right side of the nose and upper jaw, and in and below the ear, extending down the right side of the neck to the shoulder and arm. Has had one attack of very severe neuritis in the right arm, which disabled it for some weeks. All upper teeth were extracted, without relief from pain. Says her general physical condition was unusually good for her, yet the pain became so severe at times as to keep her in bed two or three days at a time, and she is never entirely free from it.

Examination of the ears, nose, sinuses, tonsils and remaining teeth, revealed nothing significant. Tests for protein sensitization to commoner foods were negative. The pulse ranged from 84 to 105, and the heart action was sensitive. She has too much energy for her strength. Two basal metabolism tests gave an average of +24.

Cocain (10 per cent) applied to the right nasal ganglion gave complete relief for about sixteen hours. Sterile water applied the second day gave no relief, while cocain again on the third day gave another period of complete relief. Silver nitrate applied to the ganglion daily for one week, and then at intervals of two to three days for three weeks more, kept her free of pain until she contracted influenza in January, 1923, which caused a recurrence of the pain, which gradually subsided as she recovered. With this exception she has been practically free from pain, regardless of weather conditions, for over four months, the only real relief for some three years.

Case No. 3.—Mrs. H. R., age 45, of the type usually called neurasthenic. For two or three years she has been below par and troubled a great deal with itching and burning hard palate, pains in the right ear, tenderness behind the mastoid, occasional pain in occipital region, and for past year almost constant stiffness and aching neck and right shoulder, with frequent inability to use the right arm. The left side was only slightly affected. The heart action was sensitive, with a pulse of 95 to 110 at all times. Slight exertion always caused a tight feeling about the heart, and a choking sensation. She was on "high tension" most all of the time, and was easily fatigued. She menstruated too freely and often too early. Her family physician reported negative findings in general physical examination. The sinuses were apparently negative, ears negative, teeth negative, tonsils small and submerged, from which much cheesy matter could be expressed. Basal metabolism test gave +26.

This patient did not suffer much pain, and what there was could be stopped by applying cocain to the right nasal ganglion. The tonsils were removed October 1, 1922, at the outset of treatment, and the operation was followed on recovery by daily applications of silver nitrate to the right ganglion. Improvement was rapid for a time, but about a month after the tonsillectomy she had the worst attack she had experienced, affecting the neck, arm and hard palate. This lasted but a few days. At this time began the administration of pancreatic compound. Improvement began again and was gradual but steady. She reported the latter part of March, 1923, looking very much improved in every way and said she was feeling fine, although still annoyed some with the itching of the hard palate.

These cases are not reported as permanent cures, but certainly they were cases of nasal ganglion neurosis, and just as certainly, to my mind, at least, was there an endocrine aspect which should not be ignored.

In the first case, the distressing pain was relieved before the use of the glandular extracts, but the asthenia persisted until they were taken for some time. The patient will no doubt have relapses, but I believe he can be kept a useful citizen if proper attention is given to his case. Injections might give more permanent relief in his case, but response was so rapid to milder treatment that I preferred reserving the injection method of treatment until a later date, should they be needed. Basal metabolism tests were not made on this patient, as I was not prepared to make them until after he had begun taking the extracts.

The second case is still under observation. The patient has been quite comfortable for some months, and I have made no effort to alleviate the hyperthyroid state, since I want to make further basal metabolism tests to ascertain, if possible, whether the relief from pain has influenced this element in her case.

In the third case, the psychic element will always have to be considered, but being rid of the only focus of infection (the tonsils) that could be found, will no doubt add to the results in her case. There was an undoubted hyperthyroid condition, to my mind, in this case, which may have been the result of infection from the tonsils.

INSULIN AND ITS USE IN THE TREATMENT OF DIABETES.*

BY

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The recent announcement by Dr. Banting and his coworkers at the University of Toronto, of the preparation of an active extract of the islands of Langerhans of the pancreas excited worldwide interest. The work was suggested to Dr. Banting in November, 1920, when reading an article by Barron on the relation of the islands of Langerhans to diabetes. This article called attention to the fact that ligation of the pancreatic ducts causes degeneration of the acinous tissue, but not of the islet tissue. Here, then, was a means of securing an extract of the islands of

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Langerhans without contamination by the trypsinogen and other digestive secretions of the pancreas. Experiments were begun on this hypothesis, and an active extract was obtained from these degenerated glands. Its activity was demonstrated in depancreatized dogs, in whom it invariably had a reducing influence on the percentage of sugar in the blood and the amount of sugar in the urine. The extent and duration of the reduction of sugar varied directly with the amount of extract injected. Not only were these reductions affected, but the subjective condition of the animal was greatly improved and its life markedly prolonged. In one case such an animal lived in excellent condition for ten weeks, whereas ordinarily an animal from which the pancreas has been removed rarely lives more than three weeks.

The method of preparation of the extract from the degenerated pancreas was long and tedious, and obviously could not be expected to be commercially practical. The next step was to prepare an extract from the foetal pancreas. It had been pointed out by various observers that the proteolytic enzymes of the pancreas are not present before the fourth month of intrauterine life. Extracts were made from the pancreas of such embryos and proved to be active. The investigators then proceeded to try whether an active extract could be prepared from the pancreas of the full grown ox, by using alcohol as an extracting medium, as Scott had previously suggested, so as to circumvent the destructive action of trypsin on the antidiabetic hormone. Satisfactory results were obtained and it was thought that insulin, the name which, following Sir E. A. Schafer's suggestion, has been given to the internal secretion of the pancreas, might now be used in treating clinical diabetes.

The preparation, as at first obtained, caused considerable local irritation and occasionally an abscess at the site of the injection. After many experiments a pure, non-irritating substance was obtained, which contained only a minimum amount of protein, was practically salt free, could be readily made isotonic, was lipoid free, was almost free from alcohol soluble constituents and since it could be sterilized by passing through a Berkfeldt filter, it could be administered subcutaneously without fear of any local reaction.

It was necessary, however, to have some standard of potency, in order that the extract might be administered safely and in adequate doses. The characteristic action of the extract in lowering the blood sugar was made use of in determining the unit. It has been found satisfactory to consider as one unit the amount of insulin which on subcutaneous injection, can lower the percentage of blood sugar to 0.045 within four hours in a rabbit weighing about two kg., from which food has been withheld for from sixteen to twenty-four hours. As at present available, the extract contains from ten to twenty units per cubic centimeter. The reason 0.045 was chosen as the percentage to which the sugar should become lowered, is the fact that at this level almost without fail the animal develops highly characteristic symptoms, consisting of violent convulsize seizures, with intervals of coma.

More recently Eadie and Macleod have attempted to assay the pharmacologic activity of insulin by noting its effect upon the blood sugar curve after the administration of glucose and insulin, and also its effect upon epinephrin hyperglycemia; but as yet these investigations have not yielded satisfactory methods of assay.

A study of the extract revealed the following facts: (1) The active principle was universal in the animal kingdom; (2) it was destroyed by boiling; (3) it could be passed through a Berkfeldt filter; (4) it was easily preserved; (5) it was nontoxic, and (6) was not destroyed by alcohol.

MODE OF ACTION.

The mode of action of insulin is not thoroughly understood. It has no influence on the rate of disappearance of glucose from drawn blood (glycolysis), nor on the rate at which glycogen is broken down in incubated pieces of liver. The insulin must, therefore, enter the tissue cells and create therein a vacuum, so to speak, for glucose, as a result of which sugar is withdrawn from the blood more quickly than the liver and muscles can supply it from their stores of glycogen. This vacuum for glucose in the tissue cells is in part due to polymerization of glucose in them, but it is also partly due to increased combustion, since there is usually a marked increase in the respiratory quotient of normal, as well as of diabetic dogs, and the oxygen consumption also increases.

The action of insulin in reducing the percentage of sugar in the blood in the experimental forms of hyperglycemia following "piqure," the injection of epinephrin, carbon monoxide poisoning and the administration of ether, as well as following pancreatectomy and in diabetes in man, indicates that its action on carbohydrate metabolism is fundamental.

The following facts show that the reduction of the blood sugar by insulin is not a dilution phenomenon: (1) Hemoglobin estimations before and after injection of the extract are identical. (2) Injections of large quantities

of saline do not affect the blood sugar. (3) Similar quantities of extracts of other tissues do not reduce the blood sugar.

At first attention was centered on the effect of insulin on the percentage of blood and urinary sugar, but as knowledge of it increased a number of associated effects were observed. The effect on the respiratory quotient, that is, the relationship of the amount of carbon dioxide excreted and the oxygen retained, has already been mentioned. When insulin is administered in adequate doses, the acetone bodies entirely disappear from the urine and remain absent so long as the administration is continued.

The effect of insulin on carbohydrate metabolism is striking. Not only does it remove the symptoms of diabetes due to the absence of insulin from the body, but it also prevents the development of the hyperglycemia and of glycosuria. It has been observed that insulin will prevent almost completely the hyperglycemia following ether anesthesia. This obviously has a practical application in surgical practice.

Professor McLeod makes the following observations of the effect of insulin on fat metabolism:

"Very significant results were obtained by comparison of the percentage amounts of glycogen and of fat in the liver and heart in untreated and insulin-treated diabetic animals. When no insulin was given, the glycogen content of the liver was found to be very low—not more than one per cent— whereas that in the heart was decidedly above the normal; after insulin (and sugar) the percentage of glycogen in the liver rose to the exceptionally high value of over 12 per cent, and there was a decided fall in the percentage in the heart. The fat content of the liver fell from about 12 per cent in untreated animals to below 5 in those treated for two days with insulin, and there was also a decided diminution in the fat content of the blood. These observations indicate that insulin, possibly because of its influence primarily on carbohydrate metabolism, also affects that of fat."

INSULIN IN DIABETES MELLITUS.

Insulin was first used with human diabetics at the Toronto General Hospital, January 10, 1922. The results observed in depancreatized animals were duplicated in man. In fact, every detail of the therapeutic effects of this hormone was definitely forecasted by animal experimentation—the effect on the blood sugar and on the urinary sugar, the diminution of acetone bodies (to which the incidence of fatal coma is related), the prolongation of life, the raising of the power to metabolize sugar—and it was not until this had been established beyond doubt, that insulin was used in patients.

The patients report relief from the subjective symptoms of the disease. The strength increases perceptibly within the first week. The appetite returns, thirst is lessened, edema disappears and polyuria decreases. Irritability and sleeplessness improve. The facial expression changes and the skin becomes less dry and harsh. There is increase in body weight, and food in excess of the caloric requirements may be taken. Glycosuria decreases or with adequate doses disappears. Acidosis is abolished.

To date a sufficient number of cases of varying degrees of severity of the disease, have been observed and treated to justify the statement that when insulin is administered subcutaneously in adequate dosage, it is capable, within a short time, of removing the cardinal symptoms of the disease; to suppress the symptoms permanently, the injections must be continued, usually two or three times a day, preferably within a period of from one-half to two and one-half hours before food is taken. So long as the administration is maintained the patient is able to assimilate much more carbohydrate than previously and gains in weight and physical and mental vigor. The despondency and apathy that are such prominent symptoms in many cases, disappear.

That insulin is in any sense curative, is maintained by no one. It is hoped, however, that in the adolescent forms of the disease, the rest that is afforded the pancreas by the use of the extract will prevent its further degeneration, and perhaps actually promote the restoration of the function of the organ.

The use of insulin does not make unnecessary the careful dietary management of every case. In fact, if anything, it makes more necessary an accurate knowledge of the patient's carbohydrate tolerance, for only with this knowledge can the dosage be accurately determined.

In practice I calculate the glucose content of the diet according to the method of Woodyatt, in which all of the carbohydrate, 58 per cent of the protein and 10 per cent of the fat, is regarded as being available as glucose in the metabolism. The patient is placed upon a maintenance diet containing a sufficient number of calories to meet the basal metabolic need, at least 30 calories per kg. of body weight, and enough protein to maintain nitrogenous equilibrium. This diet is so calculated that it contains the proper amounts of carbohydrate, protein and fat to maintain the balance between the acid forming and non-acid forming substances (ketogenic-antiketogenic balance). If, after a few days of observation, on this diet, the patient continues to excrete glucose in the urine, insulin is administered in the proportion of one unit for each two grams of glucose lost in the urine, and with this amount the patient

usually becomes sugar-free and the acetone bodies, if present, promptly disappear. The dosage of insulin is not, however, as fixed as is indicated by the above statement. The amount of glucose utilized by the patient after the administration of insulin varies, in many cases, and it becomes necessary to increase the dose gradually until the glycosuria, hyperglycaemia and ketosis have been controlled. The height at which the blood sugar percentage remains during the period of observation on a maintenance diet, is also helpful in determining the amount of insulin to be given. Further increases in the diet will obviously necessitate an increase in the amount of insulin, and this must be done in order that the patient may gain in weight and have sufficient strength to carry on the duties of life.

The usefulness of insulin in coma is undoubted. Numerous instances of well developed coma have been overcome by the administration of massive doses of insulin. In one case I gave 130 units during a period of eighteen hours, with good results. Its effect in cases of gangrene and infection is often most striking. With the disappearance of the acid bodies and the excess of sugar from the blood and tissues, healing takes place more rapidly and infection is more easily overcome. Its use as a precautionary measure against post-operative risk in diabetic surgical cases, has proven very helpful.

The remarkable lowering of the blood sugar by insulin makes it necessary to observe great care in its administration. An overdose will cause hypoglycaemia, in which the blood sugar may go as low as 0.032 per cent. Before this level is reached, however, certain very definite, acute symptoms make their appearance. When the blood sugar reaches 0.07 per cent under the influence of insulin, the patient becomes aware of it. He may at first complain of hunger, then nervousness, tremulousness, weakness and fatigue. Almost always there is flushing or pallor, and usually profuse sweating. Difficulty of articulation has been observed frequently, also loss of emotional control, with crying spells. As the hypoglycaemia becomes more pronounced, the severity of the reactions increases. Muttering, delirium, coma and convulsions, ending in death, may develop if the premonitory warnings are not heeded promptly. Carbohydrate in any readily assimilable form, such as orange juice, syrup, candy or glucose, will readily overcome the symptoms by restoring the blood sugar to normal. If the patient is comatose the carbohydrate should be given with a stomach tube, or a sterile solution of the glucose may be given intravenously. A full dose of adrenalin, 1 to 1000 solution, hypodermically, will often restore the patient.

SUMMARY.

In conclusion, I can not do better than to quote the following statements from a very recent article by Banting, Campbell and Fletcher:

"1. Under treatment with insulin in patients who are not otherwise amenable to ment: (a) Glycosuria is abolished; (b) ketones disappear from the urine and the blood; (c) blood sugar is markedly reduced and maintained at normal levels; (d) the alkali reserve and alveolar carbon dioxide of the patients in acidosis and coma return to normal; (e) the respiratory quotient shows evidence of increased utilization of carbohydrates; (f) the cardinal symptoms of diabetes mellitus are relieved and the patients show well-marked clinical improvement.

"2. Insulin is a specific in the treatment of diabetic coma.

"3. Certain procedures are suggested as a guide in the administration of insulin.

"4. Hypoglycaemic reactions in man have been studied and described.

"5. Hypoglycaemic reactions following insulin are relieved by the administration of carbohydrates and also by the injection of epinephrin."

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ABSTRACT OF DISCUSSION.

Dr. E. B. McKinley, Dallas: Dr. Carter has stated that a unit of insulin is that amount which upon subcutaneous injection will lower the percentage of blood

sugar to 0.045 or produce convulsions and death of a two kg. rabbit from which food has been withheld for from sixteen to twenty-four hours, within four hours. Only within the last few weeks the unit, as put on the market by the Eli Lilly & Co., has been changed to one-fifth this amount, and those using insulin should be informed of this change. Dr. Graves stated that some of his patients treated with recent preparations of insulin are beginning again to show sugar in the urine, though the same doses of insulin had been given them all along. Perhaps the change in the unit will explain this; one must now give five times as many units to get the same effect as with the old unit.

Dr. Caldwell and I have prepared three different samples of insulin from sixteen, forty-eight and eighty-six beef pancreas, respectively. The material was biologically active. In testing the material in vitro, by adding graded amounts of insulin to known amounts of rabbit blood in a series of test tubes and then incubating the series for a definite time, it was found that the percentage of sugar remained nearer the normal in those tubes to which the larger amounts of insulin were added, and the percentage of sugar was remarkably low in those tubes receiving no insulin. This suggests that insulin may act as a stabilizer of the sugar in the tissues, enabling them to retain and utilize it. Warthin suggested this in his monograph on Endocrinology and Metabolism, in 1921. I believe the biggest problem with insulin is to find a way to administer the material other than by the subcutaneous route. Salol coated tablets and duodenal tube methods, have been suggested, but dependable results have not as yet been reported.

Dr. Lewis William Fetzer, Dallas: The ligation or blocking of the pancreatic ducts was first done by Vassale in 1891. This caused only a retention of the internal secretion activity of the pancreas.

With regard to the trypsinogen factor, if we will go into the realm of vegetable physiology we will find some good work on record. This will show us, at least as far as vegetable physiology is concerned, that a trypsinogen-like substance is not a great factor. We will have to look further, I believe, for a factor which inhibits insulin activity in ordinary pancreas preparations.

In regard to the statement that a "substance like insulin is not universally distributed," in other words that it is confined to the animal kingdom exclusively, I will have to report that in the last few months I have found that such is not the case. I found an insulin-like substance in a vegetable cell. I had no intention of reporting this finding at this meeting, but two weeks ago I said something about it to the Dallas County Medical Society. My reason for coming out with it at the time was an announcement of the findings of two workers of Cambridge University in England, who claimed that they had also isolated from these cells a substance that can do the work of insulin.

Dr. W. E. Nesbit, San Antonio: I am glad that Dr. Carter has stressed the fact that the management of the diet must continue to be the keystone of the arch in the treatment of diabetes. In insulin we have a substance which very rapidly combusts glucose, thereby aiding the body in metabolizing that substance. We must confine insulin to those cases which have a very low carbohydrate tolerance, such as children; cases in coma; cases moderate in severity which are losing ground on a diet which has been built up as far as possible, such a diet as was advocated something less than two years ago by Newburg and Marsh. In coma, the injection of glucose, and the co-incident administration of insulin will, usually, bring about rapid recovery.

In cases of diabetes where surgical operations are necessary, such as gangrene, insulin will play an important part, but in the ordinary case of diabetes, which can be maintained on the ordinary diet, insulin should not be employed, for the reason that the average human being cannot be depended upon to carry out faithfully his dietary program; he will be very honest and courageous in his diet for a short time, and then will become careless and rely more upon insulin than upon the diet. For the present let us use insulin only in severe cases of diabetes, where we are not able to get good results with dietary measures.

It is important not to give insulin ahead of the meal. I prefer not to give it any sooner than one hour before meals. This gives plenty of leeway to take care of any variation in standardization. Insulin is shipped each week to those who are using it, and by carefully checking the sugar excretion each day, and giving the same amount of insulin each day, it will be found that the sugar excretion will increase toward the end of the week, showing a deterioration in the strength of the insulin. This will probably be corrected in the near future.

Dr. J. Spencer Davis, Dallas: Not all cases of diabetes will need insulin, as many of them can be rendered sugar free by moderate restriction in diet. It is in the severe cases that it will find its greatest field of usefulness. The simpler the method the more general will be its application.

While in the East, I had the opportunity of visiting the plant where insulin is made, and this subject came up for discussion. Physicians using insulin were asked to try to find some method by which a general practitioner would be able to use it. It occurred to me that one of the plans that might be worked out by those who live out in communities where they cannot run regular routine blood sugars, would be to select a test diet from one of the standard texts on diabetes, and determine the amount of glucose coming through in the urine. While the patient is kept on the test diet, insulin may be begun by giving a dosage per day not greater than one unit for each four grams of glucose in the urine. It is not practicable to collect all the diabetics in the larger centers, and I decided to select two severe diabetics for a trial of this plan, controlling our observations by daily blood sugars. Both cases had marked acidosis, marked loss of weight, and a carbohydrate tolerance below four grams. Gradually increasing doses of insulin were administered until the urine was sugar free. When there was a marked reduction in the glycosuria, the dosage was not increased the following day. Both cases were rendered sugar free, and the acidosis promptly disappeared, accompanied by increase of weight and general well being, and they have continued so.

The effect of a single dose of insulin is in evidence for a period of about five hours, but after it has been given over a considerable period of time it seems to have an effect for about five days, with gradual return of original condition.

It seems to me that we have no chance to cure a severe diabetic, and the practical method of handling such a case will be to determine the tolerance for carbohydrates and give enough insulin to keep them sugar free and in good physical condition.

Dr. Carter (closing): I think Dr. Nesbit is correct, insulin isn't necessary in all diabetic patients. Not infrequently patients have been referred to me for insulin. They are often elderly diabetics who, with a moderate restriction of diets become sugar free, and are spared the use of insulin. I don't think we are justified in giving those patients insulin. They can get along on a diet if they will. They are looking

or a lazy man's method of curing themselves, without being bothered with a diet. The drug is of the greatest value in the treatment of the young and in cases of coma. Of course, milder diabetics, who live busy life and cannot adjust their lives to their capabilities for food, are justified in taking insulin. I think it should be stated that insulin is a substitution therapy, not unlike thyroxin in myxedema. It has no prolonged effect. It has to be given two or three times a day, depending on how you arrange the carbohydrate in the diet.

PATHOLOGICAL BIOCHEMISTRY IN DIABETES.*

BY

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OKLAHOMA, CITY, OKLA.

Osler and McCrae define diabetes mellitus as a disease of metabolism in general, with special disturbance of carbohydrate metabolism, in which normal utilization of carbohydrates is impaired, with an increase in the sugar content of the blood and an accompanying glycosuria, and also with a tendency to subsequent disturbance of fat metabolism with resulting acidosis. This gives the two main points in the altered physiology in diabetes, first the carbohydrates and second the fats.

In no disease is it more important to make an early diagnosis than in diabetes mellitus. Probably the first symptom is a lowered glucose tolerance or a high blood sugar content. At this stage the increase may not be sufficient to give a glycosuria. At least the sugar in the urine is probably not constant at this time and can only be discovered by frequent examinations. This emphasizes the importance of routine urine examinations. Clinically, the onset is very gradual, the frequent micturition and thirst often first attracting attention. Very soon the inordinate appetite and beginning emaciation appear. The later stages, with skin, pulmonary, renal and nervous manifestations and coma are, of course, familiar to all of us.

All carbohydrate taken as food and absorbed must be converted in the digestive tract into glucose, galactose or levulose. The polysaccharides are first changed to the disaccharides by the ptyalin of the saliva and the amylopsin of the pancreatic juice. The disaccharides in turn are converted into the monosaccharides, glucose, galactose and levulose by the inverting enzymes in the intestinal juice. These monosaccharides then are absorbed from the intestines and conveyed by the portal circulation to the liver. Up to this point the biochemical changes in carbohydrate metabolism are the same in normal and diabetic individuals. That is, the digestion and absorption of the starches and sugars are not changed in diabetes. Here something happens in the diabetic which prevents him from either storing the carbohydrates ingested or from utilization of the carbohydrates after they have been stored, as glycogen.

Normally the great majority of the monosaccharide carried in the portal blood is stored in the liver as glycogen, a polysaccharid, the so-called animal starch. The remainder passes on into the systemic circulation and is stored in the muscles, also as glycogen. From these storehouses it is thrown, again as glucose, into the systemic circulation, to be utilized by the tissues as heat and energy, yielding water and carbon dioxide as end products.

It is now supposed that glucose in the free state as such cannot be utilized in the metabolism of the tissues. It must first combine with an internal secretion formed in the islands of Langerhans of the pancreas. If this internal secretion is absent from any cause or possibly lacking inactivation by some other internal secretion or chemical substance, the glucose cannot be oxidized and escapes in the urine as sugar. It is also thought that this internal secretion from the pancreas assists or makes possible the storing of the glucose, as glycogen, in the liver and muscle tissues.

Not all of the glucose circulating in the blood comes from the carbohydrates of the food. It is estimated that 58 per cent of the protein ingested can be converted into glucose. The fats also are thought by some authorities to be capable of forming a small amount of glucose. These facts are demonstrated by certain cases of severe diabetes in which the blood sugar cannot be made to approach the normal nor the urine to become sugar free, even after no carbohydrates are included in the diet, until the proteins are materially reduced. Also, the ingestion of fats and proteins in a normal individual will not increase the percentage of blood sugar nor cause a glycosuria, while in a diabetic both of these conditions may occur. The relation of the fats in the diet to acidosis in diabetes is, however, of much importance.

The carbohydrates are the most quickly available foods for utilization by the tissues as heat and energy. Normally we are able to rapidly oxidize relatively large amounts of carbohydrates. There is, of course, a limit to this assimilation, which Macleod calls the "saturation limit." When this point is exceeded some of the carbohydrate appears in the urine as glucose. The term "saturation limit" or glucose tolerance, is only relative because it is quite variable under different

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 10, 1923.

circumstances in the same individuals, and also different for different individuals. In practically every individual, if this limit is reached by the ingestion of a certain amount of a carbohydrate and then more carbohydrate is administered, only a small portion of this excess will be excreted in the urine. This shows that the body can take care of carbohydrate even after the point of tolerance has been reached.

The upper limit of blood sugar content in man is around 110-120 mgm. per 100 c.c. of blood, or 0.11-0.12 per cent. If the percentage of the blood sugar rises above this point a glycosuria usually occurs. A normal individual should be able to take 100 gms. of glucose on an empty stomach without having sugar appear in the urine. This is the so-called "glucose tolerance" test, which at the same time tests the "renal threshold," that point of sugar percentage in the blood above which it will spill over, as it were, into the urine. This test is of great value in the diagnosis of early cases of diabetes, in the treatment of diabetes, and also in the diagnosis of certain other conditions, such as carcinoma of the intestinal tract, hyperthyroidism, renal diabetes, etc.

In the interpretation of this test certain factors must be taken into consideration, such as the delay of the glucose in the stomach by pyloric obstruction, and the activity of the absorption processes in the intestines. Then, also, it must not be forgotten that a few other conditions may at times give the diabetic type of curve, such as overaction of the thyroid and hypophysis, late stages of chronic nephritis, cancer of the intestines, the injection of adrenalin, etc.

The character of the curve of the blood sugar content at 45 minutes, 1 hour and 45 minutes, 2 hours and 45 minutes, etc., after the ingestion of the 100 gms. of glucose, will be quite different in the diabetic and in the normal individual. In the normal person the blood sugar rise will be rapid, reaching its height usually in about 45 minutes and returning to normal before the end of the second hour. The top of this rise is not very high, usually not above 130 mgm. per 100 c.c. of blood, never over 150 mgm. The true diabetic, on the other hand, starting at a higher level, will give a much delayed rise, not reaching its highest point until well into the second hour, and not returning to the normal for that individual until the third hour. The total increase is always quite considerable, sometimes, in severe cases, reaching as much as 500 mgm. per 100 c.c. of blood, but the average is around 300 mgm.

A low carbohydrates tolerance reduces the ability of the body to metabolize fat as well. This has been aptly stated in the phrase, "The fats burn only in the fire of the carbohydrates." This improper oxidation of the fats leads to the formation of acetone bodies, with acidosis and coma as the result. Here enters the second important factor in the pathological biochemistry in diabetes.

The term acidosis is very broad and one about which there is still much confusion. There must be an accumulation of acids in the body before a true acidosis can be said to exist. Simply the formation and excretion of an excess of acids is not sufficient. Little is known of the altered metabolism which forms the acids causing acidosis in cases of uremia, myocardial insufficiency, the diarrheas in children, acute infections, anesthesia, etc., while the steps in the metabolism and the acids causing the acidosis in diabetes mellitus, have been fairly well worked out. These are spoken of as the acetone or ketone group of acids, and include betaoxybutyric acid, diacetic or aceto-acetic acid, from which acetone itself is derived. The acidosis of diabetes should, therefore, more correctly be spoken of as a ketosis.

Fats when taken into the digestive tract with food are broken up into fatty acids and glycerin. Passing into the epithelial cells of the intestine as soaps and other soluble compounds, they are resynthetized into neutral fats and pass into the lacteals, then to the thoracic duct and eventually into the general circulation. From the blood they are stored in the fat depots of the body, or are utilized by the tissues as heat and energy, yielding as end products carbon dioxide and water.

In diabetes mellitus, on account of a faulty metabolism, the exact cause of which is not known, this oxidation of the fats is incomplete and some of the intermediate substances, especially the acetone group of acids, accumulate in the blood and are excreted in the urine. In the case of the fats, therefore, the same as with the carbohydrates, the alteration in the physiology is not in their digestion and absorption from the intestines but in their metabolism by the tissues of the body. The cells are not able to properly oxidize the fats into their end products of carbon dioxide and water.

Conclusions.—While it is known that there are several types of transient glycosurias, such as alimentary or renal glycosuria, and several constant glycosurias, for short periods of time, such as from severe nervous shock or brain injuries, it is the persistent glycosuria that we meet in true diabetes mellitus that is of special interest to us. Still, an occasional appearance of sugar in the urine should put the doctor on guard for an early stage of true diabetes. He should have his patient

tested for blood sugar and the glucose tolerance curve. It is only by the early establishment of a definite diagnosis of true diabetes mellitus, and the placing of the patient on a suitable diet, that he can hope to do the most for him.

Although many doctors take the percentage of sugar in the urine as an indication of the condition of diabetic patients, this is not the best index. The percentage of sugar excreted in the urine is not of as much importance as the percentage of retention of sugar in the blood. It is the increase of the blood sugar content that is harmful. In fact, what we need to know is the carbohydrate tolerance of that particular patient—how much starch and sugar, as well as fats and proteins the patient is able to take before the blood sugar is raised to a harmful degree or until sugar appears in the urine. In other words, what we want to establish is how much of each type of food our patient can utilize before glucose is retained in the blood above the normal percentage or before losing any in the urine.

The carbohydrates in the diet must be reduced to a point of toleration, with no glycosuria and with no great increase in blood sugar. The fats must be reduced until no acetone bodies appear in the urine and no acidosis is shown by the various tests. The proteins, also, must often be reduced before the urine can be rendered sugar free. Yet all this time the patient must be given sufficient calories to sustain him. We must, if possible, guard against death of the patient by starvation on the one hand and death from acidosis and coma on the other. The newer treatment of diabetes by insulin or iletin, gives very favorable promise of assisting us in this problem, and it is to be hoped that its wider use by the profession who have the facilities for controlling it by blood chemistry, will confirm the work of Drs. Banting and Best.

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ABSTRACT OF DISCUSSION.

Dr. Kenneth M. Lynch, Dallas: A section of this sort is, of course, indebted for a paper of this character, dealing in physiological matters which we ordinarily shy from. The tendency is for the average physician to close his ears to such discussion. He considers it to be of such highly technical nature, and of no particular interest to him. It is my idea that a blood sugar estimation is not an impossible thing for anyone who cares to know. Short-cut methods of diagnosis, of course, should not be indulged in. It is not impossible for anyone to prepare himself to do blood sugar tests. I think this would be much more easily accomplished than to attempt to transport blood for any considerable distance, subject to the deterioration of time, for blood sugar estimations in a laboratory. It is interesting to note in a recent announcement that insulin will probably be available more widely in the very near future.

Dr. Lewis William Fetzer, Dallas: I had expected a few statements with reference to how certain processes occur in the diabetic with regard to why we need insulin. Nobody has said a word on why. I believe at this time that a "coenzyme" is lacking, which may be synonymous with an internal secretion. Instead of using the old term "sugar tolerance," I want to propose the name "coenzyme index," because, after all, you are determining the extent to which sugar can be decomposed through the sugar tolerance test.

Dr. Charles T. Stone, Galveston: Dr. Bailey stated that the upper limit of blood sugar content in man is about 110 to 112 mgm. per 100 c.c. of blood, and that if the percentage of blood sugar rises above this point a glycosuria appears. I believe there is a little space in between the point of normal blood sugar and the renal threshold that allows sugar to appear in the urine. According to Joslin, 140 to 160 mgm. per 100 c.c. represents the threshold for sugar in the normal person. But that figure does not hold for the diabetic individual, as some of them show a renal threshold well above 200 mgm. per 100 c.c. of blood.

The paper brought out a very important point, the ability to recognize some cases of diabetes before sugar appears in the urine, by a study of the glucose tolerance test. Paullin and Fitz have shown conclusively that a certain percentage of obese individuals are potential diabetics, and if we will study these patients from the standpoint of glucose tolerance, we can forecast, in some instances by several years, the onset of clinical diabetes.

Dr. T. C. Terrell, Fort Worth: The glucose tolerance test is not being used as much as it should be. It can be of great assistance in working out many of our difficult cases, especially of carcinoma of the gastro-intestinal tract, and in all carcinomas. I have had the opportunity of using this test in a number of gastro-intestinal cases that were questionable as regards carcinoma, and it has been of value in all of them.

The blood sugar tests are frequently of value in nephritis. A patient may be giving a negative urine and having a very high blood sugar. With this aid we may properly diet the patient and be of great service to him. I have been asked the question a number of times, whether blood can be shipped to the laboratory for blood chemical work. I believe that it can. We have been doing some work to find out how long after blood has been taken the findings will be of value. The possibilities of getting inaccurate reports should be remembered, for we cannot always control the manner in which the mail will be handled. Blood for shipment should be collected in a vacuum tube and kept cool. If this plan is followed out, I believe that the results will be fairly accurate in the majority of instances.

Dr. David W. Carter, Jr., Dallas: It is not essential to have numerous and repeated blood sugar tests made while administering insulin. Dr. Woodyatt of Chicago, said to me, "I don't know what blood sugar means. You find it at one level, and then at another level, and a great many things enter into the consideration of it that make me doubt its actual value all the time." In the treatment of a diabetic, if we can have a blood sugar test made at the beginning, it is well to do so, because we then know where the patient stands. Later on, after a period of preliminary observation, if we can have another it is very helpful, but we don't have to have them two or

three times a day. We can get along if we follow the twenty-four hour specimen of urine carefully.

Dr. Bailey (closing): I wish to call attention to the increase, or the rise in the renal threshold in the severe diabetic. Ordinarily, a kidney will allow sugar to go through after the blood sugar has come to a certain height. Later on, in a severe case for some reason or other, it will not allow sugar to go through until that percentage has been raised, and that is one reason why it is rather difficult to put much faith on the sugar in the urine; that level is variable.

In the mild diabetic, probably the trouble with the metabolism of the carbohydrate is more the fault in the storage of the glycogen, particularly in the liver and in the muscles.

It has been said here that the general practitioner can equip himself to do these blood sugar tests. That is true, but will he? I don't know whether it is the same in Texas as it is in Oklahoma, but we can't get a very large percentage of our doctors in the smaller places to even do urine examinations, and as for blood counts, many of them don't know anything about them. It will be a hard proposition to handle. Manufacturers of the various substances like insulin, are naturally very anxious to have their products used to a large extent, but it is difficult to use them satisfactorily without being checked up with the blood sugar.

The probability of a "coenzyme" existing is very likely. We don't know exactly how iletin works. One theory is that possibly the resulting substance of the union of iletin with glucose is the chemical substance that activates it.

FACTORS AFFECTING BLOOD GROUPING AND TRANSFUSION.*

BY

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The practice of transfusion of blood in the treatment of various conditions and diseases has entered upon the second phase of its history. It has become, from an interesting plaything, a highly useful and widely used part of the armamentarium of both physician and surgeon, and yet the development of the procedure has as yet not reached the stage of absolute dependability. It is subject to mishaps which are difficult, if not in some instances impossible, to guard against on account of imperfections in our knowledge as well as our practice.

Granted that the condition of the patient is such as to allow an uneventful transfusion, there are two parts to the procedure, in both of which perfection must be had before the transfusion may not in itself be a dangerous thing, namely: (1) The selection of a suitable donor, and (2) the transfusion operation itself.

Concerning the technique of the latter, it is not the purpose of this paper to venture beyond expressing the belief that a successful transfusion is a matter of the performance of a perfected technique in any one of the several methods in use, syringe, stopcock, citrate or paraffinized tube. Granted that the bloods of donor and recipient are compatible, according to our best light on the subject, a perfected technique in all these methods yields about the same percentage of post-transfusion reactions, the difference in some hands being that technique has not been properly mastered. One will prefer one technique and another will prefer one of the others, but if both are equally proficient the results will be practically the same. Incidentally, recent experiments by Siperstein and Sansby[1] indicate that intraperitoneal transfusion may become of practical usage, since it appears to act the same as an intravenous transfusion.

The importance of the method of transfusion is entirely secondary to the preliminary determination of compatibility between donor's and recipient's bloods, made necessary by the fact that in the blood of certain human beings there are substances which when placed in contact with the blood of certain others lead to agglutination or clumping of the red cells or their destruction, thus bringing about the post-transfusion reactions which occasionally lead to the death of the transfused.

About the methods of making this determination there has never ceased to be debate, and lately a number of observations have been made which question the absolute dependability of the methods now in use. If confirmed, these observations will apparently explain those reactions which appear to be unavoidable in a certain percentage of transfusions.

For the selection of suitable donors there are two procedures in use, (1) direct matching of donor's and recipient's bloods, (2) grouping of both donor and recipient. Each of these has its adherents, and if recent observations are correct each has its shortcomings.

In direct matching of one blood against another it is a matter of mixing the cells of one with the serum of the other, and *vice versa,* to determine if any clumping or destruction of cells occurs. Apparently this should be the ideal method, and yet it not infrequently fails to demonstrate an existing incompatibility. As an instance of failure of this method, I may cite a recent occurrence with us. A patient to be transfused was matched directly with a donor and the donor pronounced satisfactory. At the transfusion only a small amount of blood had been given when the patient had a violent reaction.

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From the Medical and Surgical Clinic, Dallas, Texas.

1. Siperstein, D. M., and Sansby, J. M.: Proc. Soc. Exper. Biol. and Med., Vol. xx, p. 111, 1922.

Subsequent grouping tests showed the blood of this donor to be incompatible with that of the recipient. First impression would indicate that the direct matching tests were in error, but in the light of recent developments this is not necessarily so, and in this instance it is not likely. As an explanation of such a failure, provided the technique of the test is unquestionable, there can be but one hypothesis, namely, the blood of one or the other person is lacking in sufficient agglutinating substance to show the incompatibility. To bear this hypothesis out, we are coming to know that certain conditions do affect the ability of the blood to show its agglutinative power toward another blood. This fact would seem to explain at least some of the instances of so-called change of group seemingly demonstrated as a temporary phenomenon in the reports of some investigations. This occurrence has been reported after certain drugs and after an anesthetic, while Harper[2] has recently reported experiments which seem to indicate that diet has an influence on agglutinating substance in the blood serum, an insufficiency of green stuffs apparently leading to a decrease. Obviously, if these things do so interfere with the agglutinative power of a blood, it would not be uncommon to encounter such interference in the course of direct matching, and there would be practically no means of thoroughly guarding against known interfering factors, to say nothing of unknown ones which may exist.

The possibility, then, that any blood may at a given time be so weak in agglutinative substance as to not show its real character, brings into serious question the abstractly ideal method of direct matching of bloods from patient and prospective donor. Because of this and also because of the greater convenience, we then turn to the other practice of grouping patient and donors. This practice is based upon the division of the human race into several blood groups, generally considered to be four in number. The agglutinative substances are inheritable according to the Mendelian law, a small percentage being fully developed at birth, and a large percentage being partially developed at birth. Mother and child are not necessarily in the same group, and if not their bloods are, of course, incompatible. Incidentally, this fact has been recently made the basis of a possible explanation of the toxemias of pregnancy, by McQuarrie.[3]

On the hypothesis that there are four blood groups, and only four in human beings, a simple procedure for group determination, in which it is only necessary to have on hand fresh proven sera of groups II and III to be able to determine the group of any blood within a few minutes, has been in wide use for some time. Obviously, if a patient should be transfused with blood from a person of the same group, no incompatibility should be encountered, and this method of testing recipient and donor has the preference in many places. The undoubted reactions which have occurred following transfusion after this method of testing, have been laid at the door of a faulty test or technique.

The blood grouping test is based on the reactions of the bloods of the four human groups, one against the other, and since there are only four combinations possible in the test, it would be impossible to determine that a given blood belongs to none of the four. Possibly, herein lies the root of the trouble encountered now and then where this test is used, since Guthrie and Huck[4] have recently reported careful investigations leading to the belief that there are at least two additional blood groups. If their deductions are correct, the whole fabric of our blood groupings must be rewoven. Undoubtedly if there are other blood groups they must be relatively uncommon, but they may be common enough to explain the occasional post-transfusion reaction where preliminary blood grouping has been done.

It is to be seen, then, that there is a question as to the dependability of the two pre-transfusion blood tests to show all incompatibilities between bloods. This being the case, it is advisable to take every precaution in determining the suitability of blood for use in a transfusion. In this connection, it is worthy of note that Nurnberger,[5] after determining the compatibility of donor's and recipient's bloods, proceeds with his transfusion regardless of the result of the preliminary test. He gives 10-20 c.c. of donor's blood and waits several minutes for signs of a reaction. If none occurs, he completes the transfusion.

In the present uncertainty, then, to make for safety it would seem wise to use three precautions, where possible. Direct matching and grouping should be both done, each checking the other and serving to make a more complete test. Then there should be a preliminary clinical test by injecting 10-20 c.c. of blood, with a pause of several minutes before continuing the transfusion. If either test should show evidence of incompatibility, the transfusion should not be done.

2. Harper, John, and Byron, W. C.: Jour. A. M. A., Vol. lxxix, p. 2222.
3. McQuarrie, I.: Bull. Johns Hop. Hosp., Vol. xxxix, p. 51.
4. Guthrie, C. G., and Huck, J. G.: Bull. Johns Hop. Hosp., Vol. xxxiv, p. 37.
5. Nurnberger, L.: Zentralb. f. Gyn., Vol. xlvi, p. 1945.

As to the technique of the laboratory tests involved in direct matching and grouping, it is not necessary to go into detail here. Suffice it to say that there should be no question about the strength of the stock sera of groups II and III to be used in grouping, and at least two different sera of each group should be used. If these stock sera are positively dependable, the simple, open slide method without the microscope, is the best method to use. There is nothing in the technique of these tests which is more than ordinarily difficult if thoroughly understood. Grouping can be done in the backwoods as easily as in a hospital laboratory if the performer knows his business and his stock sera. Where time is an element for consideration, grouping is simpler and more rapid than direct matching. Where it is not possible to do either, and an emergency exists, a clinical test of compatibility, with the risk of a considerable reaction, may be done.

ABSTRACT OF DISCUSSION.

Dr. W. S. Horn, Fort Worth: I have had two or three unfortunate accidents to occur in cases in which the blood had been tested and proven satisfactory, not only to myself and the laboratory technician, but to one or two others who examined the specimens. These reactions were severe, and in one case we were so unfortunate as to lose the patient from hemolysis three or four days later.

I don't believe that there is anything that requires more careful attention to detail, so far as the safety of the patient is concerned, than the matching of bloods for transfusion, and contrary to Dr. Moore's idea that transfusion is a simple procedure, I am getting on the other side of the fence—that it carries with it very serious considerations.

About two or three months ago I saw a child two years old who died following transfusion of 50 c.c. of blood, about three hours after the transfusion. I was unable to account for that, as the bloods matched perfectly.

I think one thing in the citrate method of blood transfusion that we often overlook is the temperature at which the transfusion is given. The average amount of blood withdrawn will be about five or six hundred c.c., and it requires some time for that to run from the donor's veins through the needle into the collecting flask. The blood will probably lose one or two degrees during the process of drawing, and if it runs through four or five feet of tubing and a small needle, requiring fifteen or twenty minutes to run into the patient's vein, an additional two or three degrees of heat is lost, and the patient is getting blood at a temperature considerably below the normal.

It requires considerable expenditure of heat energy on the part of the body to raise 600 c.c. of blood from say, 92° F. back to body temperature—to be exact, 2,196 calories. This sudden call for so much heat throws the patient into a chill as a means of generating the necessary heat, and we say there is a reaction. Transfusions at a temperature of 100° F. will eliminate most of the reactions.

BLOOD TRANSFUSION AS A THERAPEUTIC AGENT, WITH SPECIAL REFERENCE TO THE USE OF WHOLE BLOOD.*

BY

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Blood transfusion is one of the oldest procedures in medicine, the first attempt dating back to 1492. Pope Innocent III, it seems, was the first victim. From that time on, many attempts were made to transfer blood from one individual to another. All sorts of devices and instruments were planned and tried. The failures were practically equal in number with the attempts, and the mortality rates of both donor and recipient were astounding. In the middle of the nineteenth century it was learned that by whipping the blood one could defibrinate it and keep it from clotting. Soon the transfusion of defibrinated blood by indirect methods held full sway, but the mortality rate of the recipient still ran high.

Then came Crile with his direct method, whereby the blood vessels of donor and recipient were anastomosed and whole blood infused in this manner. But again the mortality rate ran high, and this method was most difficult for the average physician. Sodium citrate, hirudin and other drugs, were used to prevent coagulation. With blood typing and matching, came our greatest advance in the use of blood as a therapeutic agent. Direct methods soon fell behind and indirect methods came into prominence, using both anticoagulated blood and whole blood.

So, briefly summarizing, the history of blood transfusion may be divided into three periods: (1) The period of defibrination, from 1492 to 1498; (2) the period of direct transfusion, or Crile period, from 1898 to 1913; (3) from 1913 to date, is the period of indirect transfusion, with the use of anti-coagulated blood and whole blood.

Practically everyone has given up the direct methods of administration. A few are using the Unger method, which is for all practical purposes a direct method, but the indirect methods are those of choice at present. There are still varied opinions about the use of whole blood and anticoagulated blood. I have used both and have records on 87 cases in which citrated blood was used, and 150 in which whole blood was used. For the past two years I have used only whole, unadulterated blood, by the syringe-cannula method, as introduced by the late Dr. Lindeman. I will not attempt to explain the

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various methods but will briefly touch on the one I have chosen above all the others.

The Lindeman syringe and cannula apparatus consists of six or eight ordinary 20 c.c. Record syringes, and three or four Lindeman needles.

The patient and donor are placed side by side and their arms cleansed and draped in the usual manner. A drop of novocain is introduced at point of entrance of the vein, and a very small nick in the skin, one-eighth of an inch long, is made. The canula needles are then introduced in both donor and recipient, the recipient's vein being entered first, as it is usually the most difficult to handle. A blood pressure instrument is used for a tourniquet on the donor, as the desired pressure can always be obtained with it—40 mm. pressure is about the right amount. The tourniquet is removed from the recipient, and we are ready. On a table just at the head of the donor and recipient, are placed three rather large basins, two containing sterile water, the other normal saline. The six or eight Record syringes are also on the table, lined up on the donor's side. The doctor handling the donor picks up a syringe, attaches it to the needle in the donor's vein, fills the springe and passes it over to the doctor handling the recipient, who attaches it to the needle in the vein of the recipient. The soiled syringe is placed on the table and a nurse washes it through the three basins and replaces it for future use on the donor's side. The flow of blood is checked from the needle when hooking on and unhooking syringes, by simply placing the thumb over its end. Only whole, unadulterated blood is used. The blood is measured by counting the number of syringes full injected. It takes from ten to twenty minutes to transfuse a quart of blood in this manner.

In the selection of a donor, a relative is always best; some recipients have a hesitancy in accepting an outsider's blood. Relatives often fail to match up, however, so all blood must be first carefully typed and matched. A complete blood count should be made to be sure of its grade. The donor should be examined for tuberculosis, malaria and syphilis. A Wassermann should always be done, and typhoid vaccination looked into. Of course, a competent laboratory should test for hemolysis and agglutination. Two or three donors may be used in the same operation, but it should always be determined that they not only match the recipient, but each other, and are of the same type. A retest for agglutination should be made before using the second time for the same patient.

The dosage depends on four important points. First, on the type and character of the disease. For instance, purpura hemorrhagica responds best to small and frequent transfusions, while a severe postpartum hemorrhage would require one large transfusion. Second, the dosage depends on the patient, his age, weight and general condition. Small adults seem to handle large doses better in proportion than the obese type. Third, the number of transfusions that will probably be needed influence the dosage. If a number are going to be needed, as in pernicious anemia, medium doses of from 600 to 800 c.c. every five to seven days, are worth more than from 1000 to 1500 c.c. every ten days to two or three weeks. Fourth, the object to be gained influences the dosage. For instance, for presurgical treatment of bleeding uterine fibroids, x-ray exposures with small and frequent doses of blood are worth most, while if it is a matter of bulk, as needed in severe traumatic hemorrhage, one large dose would likely be best, and should it be for protection in deep x-ray therapy, a medium dose before and after exposure, seems best.

Concerning reactions much has been said and written. With the Lindeman method or syringe-cannula method, 95 per cent of the reactions are eliminated, if the blood has been properly matched before hand. The first and greatest precaution in preventing reaction is accurate agglutination tests. We sometimes get reactions from anaphylaxis and sensitization, varying in severity from simple urticaria to sudden death. We avoid this with the syringe method, by the introduction of 2 c.c. of the blood intravenously and waiting from three to five minutes before proceeding. Skin reactions, as in urticaria and flushing, do not contraindicate, but one should proceed slowly and cautiously under such symptoms. Reaction from chemical changes in the blood, from the air, tubing, addition of drugs, etc., is often seen in using the anti-coagulated blood. Giving the blood at a temperature too low will cause a reaction, and the injection of infected blood will certainly cause trouble. Overloading the heart and circulation will cause marked dyspnoea and sometimes a troublesome reaction.

Blood introduced into the circulation may increase the bulk of blood; eliminate troublesome symptoms, such as weakness, shortness of breath, etc.; improve body nutrition; lower clotting time, and, often, stimulate the hematopoietic system.

The indications for transfusions may be classified under four heads:

(1) For actual hemorrhage.

(2) For hemorrhagic conditions and blood diseases.

(3) For infections and intoxications.

(4) For pre-surgical and pre-*x*-ray treatment.

Under actual hemorrhage we might refer to such conditions as: (a) Traumatic hemorrhage; (b) ruptured ectopic pregnancy; (c) typhoid hemorrhage; (d) uterine hemorrhage; (e) placenta previa hemorrhage; (f) post-partum hemorrhage; (g) surgical and postoperative hemorrhage; (h) hemorrhage from colitis, etc., and (i) all conditions where there is actual loss of blood.

For hemorrhagic conditions and blood diseases, it is of great assistance; for instance, in such conditions as purpura, especially the hemorrhagic type, and in hemophilias. In leukemias, Banty's disease, pernicious anemia and malignancy, it will often prolong life, or at least make living more comfortable.

It is indicated and of much value in infections and intoxications, such as seen in the lŏw grade toxemias, and the most malignant endocarditis. For the anemias in gas and lead poisoning, blood will oftentimes work wonders. In uremia and acidosis, especially if the donor has been alkalinized before hand, we often get good results, as we do in post-partal and practically all severe infections.

In conclusion, I wish to make a plea for the use of whole blood and to beg recognition of the syringe cannula method. Whole blood can be given just as easily as the citrated blood, and reactions are certainly minimized.

In defense of the syringe method, I must add the following good points: It is quite simple; it may be done in the home or in the hospital; only whole, unadulterated blood is used; no surgery is required; there is absolute control over blood at all times; the operation may be stopped without the loss of blood; can be tested for anaphylaxis; the blood may be given slow or fast; there is absolute accuracy in measuring the amount given; there is no scarring of the arm or destruction of the veins; it may be used in all diseases; several donors may be used, and it requires half the time of other methods.

ABSTRACT OF DISCUSSION.

Dr. C. T. Stone, Galveston: It seems to me that one of the great possibilities in the transfusion of blood from healthy individuals to those who are suffering from some form of disease, lies in the field of infectious diseases. I mean the transferring of immune blood to persons who are suffering from some infectious disease. That was tried to a certain extent during the influenza epidemic of 1918, at which time patients suffering from influenza were given blood from healthy individuals convalescent from the disease. It has also been tried in pneumonia and scarlet fever, but as yet the cases have been too small in number to draw any definite conclusions, and while it may be speculative at the present time, it is a attractive field for further investigation.

The author spoke of blood transfusion in extr uterine pregnancy. Recently there have come to m attention three cases of this kind. When the abdome was opened in each case, a great quantity of flui blood was found. This blood was scooped up an transfused into the patient's veins. The results wer good.

In my opinion, the most important thing in th transfusing of blood is the preparation. The dono is most important, and I agree with the author tha we ought not only have an individual who is in th same blood group, but an individual who has bee thoroughly tested for agglutination and hemolysis

The author also brought out the point that donor should be retested, if the same one is used on a subsequent occasion. My own experience with blood transfusion has been in the field of medical diseases very largely, and a very few other types of cases. We do not expect to cure pernicious anemia with blood transfusions, but we hope to establish in this disease a remission by a system of blood transfusions greater than by any other system that we may employ.

With reference to the relative value of the whole blood method and the sodium citrate method of transfusion, a great deal can be said either way. Most of my own transfusions have been by the citrate method, because in most cases it does not matter about giving the patient some citrate. Several years ago we began to get more reactions than we thought we ought to get, and we began to experiment a bit with the citrate we had been using. We took small quantities of this citrate solution and injected it into patients in wards about the hospital, about fifteen in all, and every one of them had a reaction just like that we got when we used the sodium citrate in transfusions. We took a similar number of patients about the hospital and gave them normal salt solution intraveneously and got no reaction whatever.

Dr. H. L. Wilder of Clarendon: I want to say a word about the small amount of blood that we can sometimes give with the most remarkable results. I had a patient who was exsanguinated from postoperative hemorrhage. She was given saline while preparations were being made for blood transfusion. I had been using my Unger apparatus but a very short time and failed to get more than 100 c.c. of blood into the patient. Almost simultaneously with the introduction of the blood the patient, who had been unconscious, opened her eyes and said she felt better. We no doubt saved that woman's life with 100 c.c. of blood. We repeated the operation next day and gave only 100 c.c. of blood intentionally. She went on to complete recovery. Since that time I have used not more than 100 to 200 c.c. of blood, with saline for bulk, and I see no reason, so far, to give more.

I am partial to the Unger apparatus, as it simplifies the operation to a very great degree. The apparatus is fastened to the table with screw clamps, and it is not necessary to change connections with the needles. This minimizes the danger of getting the needles out of the veins. If the inside of the apparatus is coated with a 10 per cent sodium citrate in warm petrolatum and allowed to cool, there is very little danger of having the blood clot.

Prescribing Codein.—Codein is a derivative of opium and hence prescriptions for it come within the purview of the Harrison Narcotic Act, no matter what the individual physician may believe in respect to its habit-forming properties.—*Jour. A. M. A*, March 31, 1923.

TRANSVERSE MYELITIS FOLLOWING INFLUENZA.*

BY

R. B. McBRIDE, M. D., F. A. C. P.,
DALLAS, TEXAS.

W. W. H., age 27, was first seen in the office in December, 1921, complaining of a dull pain over the right buttock and hip, which had been present in varying degrees since October. He attributed his trouble to having carried his baby for some time on this hip, during the fair. Just before coming for advice he had noticed that this area was not sensitive to heat or cold or to pin prick. Physical examination revealed the anesthetic area spoken of, and there was an abscessed tooth, otherwise examination negative. Laboratory tests, including blood Wassermann, were negative. Believing the condition to be a peripheral neuritis due to focal infection, the abscessed tooth was extracted. The area of anesthesia did not improve, but as time went on seemed to grow larger and there developed a disturbance of urination—at first a frequency with small amounts, later retention. Urination was not painful and there was no urethral discharge. The dull pain over the right hip became more severe and nagging and was progressing to cover a larger area; and whereas at first it was troublesome only at night and when the patient's mind was unoccupied, it now pained all the time and caused the patient to enter the hospital March 11, 1922. The pain at this time extended down the outer side of the thigh, across the inner side, and involved the right half of the penis and scrotum. Before coming to the hospital a cystoscopic examination was made, and both the urethra and bladder were found to be normal. Since this time the patient has not been able to pass his urine, but has to be catheterized.

For two months sexual desires and power have been gradually diminishing, until now they are practically absent. Of late he has felt badly, sleeps poorly, appetite poor and he is constipated. He has alternating hot and cold sensations over feet and ankles, and his neck and back feel stiff.

Past History: Had mumps, measles, whooping-cough and scarlet fever when a child, smallpox at eight years, malaria at twenty-four years, influenza in 1919, and probably a mild attack of influenza in August, 1921.

Physical Examination, March 12, 1922: Patient is 5 feet 9 inches in height, and weighs 130 pounds. Nutrition, fair; scalp, negative; skin, anemic and dry; teeth, negative; tonsils, previously removed; no cervical adenopathy; heart, negative, rate and rhythm normal; blood pressure, 112-78; lungs, negative; abdomen, general rigidity, no tenderness, no masses, no fluid; fist percussion over both kidney areas, negative; kidneys not palpable. There is some voluntary stiffness of right knee; sensation normal except over right buttock and right half of scrotum and penis. In this area he distinguishes pressure but cannot appreciate sharp or dull painful stimuli, nor heat nor cold, while outside of the zone sensation seems to be increased. All other neurological examinations, including reflexes, are apparently negative. Two *x*-ray examinations of the spine revealed nothing abnormal. Blood Wassermanns and spinal fluid Wassermanns were negative; hemoglobin, 75 per cent; red cells, 4,600,000; leucocytes, 7,750; differential, normal.

Patient left the hospital April 19, 1922. There had developed in his right arm and shoulder a numbness and diminished sensibility, more marked on the extensor side of the forearm. His arm felt dead and he could not use it well, especially for fine movements. There was now dull pain all over his back.

Physical examination on returning to the hospital, May 2, 1922: Nutrition was poor, color sallow, pupils unequal, the right being smaller than the left, regular and reaction normal, and eyegrounds were normal. Extrensic ocular muscles were apparently normal. There was no facial paralysis; tongue was coated, steady and protruded in the midline; taste was normal to sweet, sour, salt and bitter; thyroid was negative; neck stiff, preventing flexion. There was no tenderness along the spine. The grip of both hands was poor, the right practically *nil*. Flexors of both arms were good; the right triceps was very weak; extensors of the wrist and phalanges on the right side were very weak, but on the left were good. Flexion of the right forearm was stronger than extension, and adduction at the shoulder stronger than abduction. There was evidence of some atrophy of the triceps, deltoid, the sternocostal portion of the pectoralis major and of the small muscles of the hand. There was anesthesia along the back of the right arm with hyperaesthesia about it. There was anesthesia over the left scapula, extending around over the left thorax. The recti abdomalis were rigid and active and not tender. In the right leg flexion and abduction at the hip joint were weak; otherwise no striking changes were made out. The deep reflexes were hyperactive in the arms and the left leg. The right knee jerk was subnormal, and ankle jerks were not obtained, even on reinforcement. Abdominal and cremasteric reflexes were not present.

Notes on the chart show the patient improving on May 15, 1922, and subsequent days, and he was allowed to go home May 22, 1922, much improved. At this time he was frequently passing his urine normally. However, on account of having to be catheterized he returned to the hospital on May 28, 1922, much improved otherwise. Strength was returning to the muscles of his arm and hands. Sensation was normal in the left arm and practically so in the right. It was normal over the thorax. There was an area of anesthesia over the right buttock, extending down the thigh now only about halfway, the remainder of the area previously involved having recovered. There was hyper-sensibility over the left buttock and thigh posteriorly. Anteriorly there was diminished sensibility of a small area on the inner aspect of the right thigh, and of the right half of the penis and scrotum, while on the left there was an area of hyper-sensibility on the inner side of the left thigh.

The patient again left the hospital in July, 1922, much stronger and feeling better. He was at this time, however, markedly constipated and had to be catherterized; there was anesthesia of both thighs, scrotum and penis, and a weakness of the right leg. For a time he rested on a farm, doing without doctors; then as his nutrition grew worse he tried all sorts of doctors and cults to no avail. He returned to the hospital December 13, 1922, very weak and emaciated, with bed sores over all boney proturberances. His mind was clear and he said he had been paralyzed from the diaphragm down for more than two months. There was loss of bladder and bowel control. Sensation and motion were found to be normal from the umbilicus up. Below this dividing line he was paralyzed; all sensation was lost. Loss of sensation gradually spread until it reached about the fifth rib in front. There was increased knee jerk and ankle clonus, both sides, positive Gordon and Oppenheim, and positive Babinski. Umbilical and cremasteric reflexes were lost.

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 9, 1923. From the Medical and Surgical Clinic, Dallas, Texas.

The patient rapidly grew weaker and died January 4, 1923.

AUTOPSY REPORT.

(Dr. G. T. Caldwell.)

"The body is that of a greatly emaciated young white male, about 30 years of age. There are extensive decubital ulcers over all the bony prominences. On the surface of the cord near the exit of the spinal nerves arising from the ninth and tenth segments are a series of small, grayish, slightly yellowish nodules, the largest being about 2 mm. in diameter. Beneath the largest nodule is a small necrotic area in the cord, about 1 mm. wide and 3 mm. long. Distal to this for a distance of 1.5 cm., the cord has a lesser diameter than elsewhere and its tissues are more translucent than in other regions.

"In the seventh spinal segment is a second constricted segment of the cord, within which is a definite yellowish area 1 by 2 mm., surrounded by a translucent region about 1 cm. in its greatest dimension, extending about half way across the cord.

"The yellowish areas seen microscopically in the seventh and ninth thoracic segments consist of necrotic areas in which there is some karyorrhexis surrounded by areas of hyalinized glia tissue containing a dense mass of lymphoid cells covering the greater portion of a low-power microscopic field.

"Extending into the cord as far as the central canal is a cellular glia tissue which largely replaces the cord substance in one of its lateral halves. The central canal is filled with desquamated lining cells.

"The opposite half of the cord is nearly intact, except for a few clumps of lymphoid cells around a few of its blood vessels."

(Dr. W. W. Looney.)

"Above the lesion the sections of the cord showed the following degenerations when stained by the Pal-Weigert method: The posterior funiculus was completely degenerated just above the lesion, and this band of degenerated fibers (column of Goll), coming from below the lesion clung close to each side of the posterior median septum to the gracilis nucleus on the posterior surface of the medulla. The lateral portion of the posterior funiculus (column of Burdach) showed no degeneration, and its width increased from the upper limits of the lesion to the medulla, due to the addition of fibers from the spinal nerves above the lesion.

"Lateral funiculus. Just above the lesion, the fibers of the dorsal spino-cerebellar tract (direct cerebellar) were completely degenerated. In the upper thoracic and cervical regions and in the restiform body, this tract contained a mixture of normal and degenerated fibers, because of the entrance of fibers from the spinal nerves above the lesion.

"The ventral spino-cerebellar tract, or what may be termed Gower's tract, showed a mixture of normal and degenerated fibers. The explanation for this is similar to that for the other tracts.

"Anterior funiculus. A few scattering degenerated fibers were observed in this funiculus. These fibers probably belonged to the so-called ventral spino-thalamic tract (cutaneous touch).

"In the region of the lesion, practically all tracts in the three funiculi showed a mixture of degenerated and normal fibers, the explanation of which is at once obvious, when we consider that the lesion itself produced the destruction.

"Below the lesion, the most marked degeneration occurred in the lateral funiculus in the region of the lateral cortico-spinal (crossed pyramidal) and rubro-spinal tracts.

"A small amount of degeneration was also observed in the anterior funiculus, scattered alongside the anterior median fissure and among the anterior nerve roots. These fibers were in all probability representatives of the ventral cortico-spinal and vestibulo-spinal tracts. The degenerations last mentioned were, however, only observed in the thoracic region, which corresponds very closely to our idea concerning the lowest extent of these tracts.

"Diagnosis: Transverse myelitis with sclerosis of the cord in the middle and lower thoracic regions.

"Multiple extensive decubital ulcers of pelvis, buttocks and lower extremities.

"Slight increase in cerebro-spinal fluid, with slight thickening of the leptomeninges."

This case is reported because it is considered rare. Transverse myelitis from any cause is not common and very few cases, indeed, are reported as sequellae to influenza. We believe this case to have been directly caused by influenza, on account of the history and the absence of findings suggestive of other infective agents. In the microscopic fields endotheloid cells and giant cells were missing, and there was no definite evidence of the characteristics of any of the specific infections.

Also, the usual case of myelitis is more constantly progressive in its symptoms and physical findings, *i. e.*, getting progressively better or worse, rather than, as in this case, being variable in the intensity and location of its findings from day to day until definite localization had taken place.

Another interesting feature of this case is the fact that the usual involvement of fairly definite portions of the cord or of definite tracts, did not obtain. Different neurons apparently were involved at different times, giving rise to the most bizarre findings.

A great many cases of encephalitis and a number of cases of encephalomyelitis, have been reported following the epidemic of influenza that began in 1918, but the literature does not record a case similar to this that I can find.

MISCELLANEOUS

UNIVERSITY OF TENNESSEE ALUMNI NOTICE.

Professor Frank D. Smythe of Memphis, Tennessee, will be the principal speaker at the Dallas County Clinic, October 20. His visit will be the occasion of a reunion of the Alumni of the University of Tennessee, College of Medicine, which now represents not only the graduates of that institution, but those of the Memphis Hospital Medical College, University of Nashville, College of Physicians and Surgeons, and Lincoln Memorial University. All of these institutions have been consolidated with the University of Tennessee, College of Medicine, which has been located at Memphis since 1911.

Dr. Smythe was a Lieutenant Colonel in the Medical Corps during the Great War, and was organizer and Chief of Surgery of Base Hospital No. 57, located at Paris, France. He has been identified with the teaching staff of the institution for about twenty-five years, and is one of the best known surgeons in the South.

A dinner will be given, complimentary to Dr. Smythe, on the night of October 20, and it is expected that a large number of the Alumni will be present to do honor to one of the most distinguished members of the faculty. Those wishing to attend will please communicate with Dr. Ben L. Schoolfield, chairman of the arrangements committee, Medical Arts Building, Dallas.—O. M. MARCHMAN, Chairman, Dallas County Clinics.

COMMENDING OUR POST-GRADUATE WORK.

TEXAS STATE JOURNAL OF MEDICINE,

Fort Worth, Texas.

Kindly permit me to express, in your columns, my appreciation, and I am sure that of all other attendants, of the two weeks' clinical course given by the Faculty of the Texas University Medical Department, during the past month. The class being so loosely adherent, in fact not at all organized, it was impossible to make a group expression of appreciation, and to let those gentlemen go unthanked for the wonderful work they did for our good would be a shame. I know I voice the opinion and feeling of those who attended the clinic, when I say that never was there given a more practical and beneficial clinic for the country doctor than was given us by those indefatigable workers of the University Faculty, and that it was most highly appreciated by every one of us, and that we will continue to thank them through the years to come. Having attended a number of post-graduate courses and clinics in the medical centers of the world, I can truthfully say that never did I attend one that came nearer giving me just what I needed and wanted than did this clinic this year. Those of us who drove over and had our cars with us, found it both inexpensive and most pleasant to rent rooms and live a Bohemian life while there. The drives along the cool Gulf beach, and the fish suppers in real camp fashion down the island, were most enjoyable. My better half and I have decided that I shall be the first to register next summer, if another clinic is given at Galveston.

Respectfully,

WALTER SHROPSHIRE, M. D.

Yoakum, Texas, July 2, 1923.

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES.

Sofos.—A mixture of sodium dihydrogen phosphate and sodium hydrogen carbonate (sodium bicarbonate), rendered stable by coating the particles of one of the constituents with disodium hydrogen phosphate. One part of cofos has the same phosphate value as 1.75 parts of sodium phosphate U. S. P. When sofos is treated with water, sodium phosphate (Na_2HPO_4) is formed and carbon dioxide is set free. Sofos has the physiologic action of sodium phosphate. It differs from the effervescent sodium phosphate preparations in that it is free from citrate or tartrate. General Chemical Co., New York.

Pollen Extracts-P. D. & Co.—Liquids obtained by extracting the proteins from the dried pollen of various species of plants. The products are standardized in "units," a unit being the extractive obtained from 0.002 mg. of pollen. For a discussion of the actions and uses of pollen preparations, see Pollen and Epidermal Extract Preparations and Biologically Reactive Food Proteins, New and Nonofficial Remedies, 1923, p. 234. These preparations are marketed in packages for diagnostic use and in packages intended both for diagnostic use and for treatment. The following preparations are marketed: Pollen Extract Ragweed-P. D. & Co. and Pollen Extract Timothy-P. D. & Co. Parke, Davis & Co., Detroit.—*Jour. A. M. A.*, July 7, 1923.

Sulpharsphenamine-Billon.—A brand of surpharsphenamine-N. N. R. (see *Jour. A. M A.*, March 31, 1923, p. 919). It is marketed in ampules containing, respectively, 0.1 Gm., 0.2 Gm., 0.3 Gm., 0.4 Gm., 0.5 Gm. and 0.6 Gm. Powers-Weightman-Rosengarten Co., Philadelphia.

Radium Emanation (Radium Emanation Corporation.—The emanation, mechanically removed from a solution of a radium salt, in admixture with inert gases. It is supplied in sealed glass capillary tubes; each tube accompanied by a statement of the amount of radium emanation in terms of millicurie contained in it at the time of sale. The radiation from radium emanation as a therapeutic agent as analogous in all respects to that from radium and its salts, except that the activity decreases rapidly (see Radium and Radium Salts, New and Nonofficial Remedies, 1923, 255). The intensity of radium emanation decreases rapidly through decay (at the rate of about three-fourths per cent. per hour). Radium Enamation Corporation, New York.—(*Jour. A. M. A.*, July 21, 1923.

Pollen Protein Allergens-Squibb.—In addition to the products described in New and Nonofficial Remedies, 1923, p. 241, the following have been accepted: Ash Pollen Allergen-Squibb; Hickory Pollen Allergen-Squibb; Honeysuckle Pollen Allergen-Squibb; Maple Pollen Allergen-Squibb; Oak Pollen Allergen-Squibb; Pine Pollen Allergen-Squibb; Poplar Pollen Allergen-Squibb. E. R. Squibb & Sons, New York.

Animal Epidermal Extracts Allergens-Squibb.—In addition to the products described in New and Nonofficial Remedies, 1923, p. 241, the following have been accepted: Beaver Fur Allergen-Squibb; Chamois Skin Allergen-Squibb; Civet Cat Fur Allergen-Squibb; Fox Fur Allergen-Squibb; Kolinsky Fur Allergen-Squibb; Leopard Fur Allergen-Squibb; Mink Fur Allergen-Squibb; Muskrat Fur Allergen-Squibb; Mole Fur Allergen-Squibb; Opossum Fur Allergen-Squibb; Persian Cat (Angora) Fur Allergen-Squibb; Pony Fur Allergen-Squibb; Raccoon Fur Allergen-Squibb; Seal (Alaskan) Fur Allergen-Squibb; Seal (Hudson) Fur Allergen-Squibb; Sheep's Wool Allergen-Squibb; Skunk Fur Allergen-Squibb; Squirrel Fur Allergen-Squibb.

Food Allergens-Squibb.—In addition to the products described in New and Nonofficial Remedies, 1923, p. 242, the following have been accepted: Apricot Allergen-Squibb; Butterfish Allergen-Squibb; Cocoa Allergen-Squibb; Cocoanut Allergen-Squibb; Cottonseed Allergen-Squibb; Duck Allergen-Squibb; Fig Allergen-Squibb; Flaxseed Allergen-Squibb; Ginger Allergen-Squibb; Goat Allergen-Squibb; Guinea-Hen Allergen-Squibb; Hay (Alfalfa) Allergen-Squibb; Huckleberry Allergen-Squibb; Lemon Allergen-Squibb; Olive (ripe) Allergen-Squibb; Paprika Allergen-Squibb; Pineapple Allergen-Squibb; Pheasant Allergen-Squibb; Pumpkin Allergen-Squibb; Rabbit Allergen-Squibb; Scallop Allergen-Squibb; Sea-Bass Allergen-Squibb; Smelt Allergen-Squibb; Sole Allergen-Squibb; Tea Allergen-Squibb; Tobacco Allergen-Squibb; Vanilla Allergen-Squibb; Whiting Allergen-Squibb; Yeast Allergen-Squibb.

Pollen Extracts-Arlco.—In addition to the products described in New and Nonofficial Remedies, 1923, p. 237, the following have been accepted: Arizona Ash Pollen Extract-Arlco; Arizona Cottonwood Pollen Extract-Arlco; Arizona Walnut Pollen Extract-Arlco; Bermuda Grass Pollen Extract-Arlco; Burr Ragweed Pollen Extract-Arlco; Burroweed Pollen Extract-Arlco; California Mugwort Pollen Extract-Arlco; Carelessweed Pollen Extract-Arlco; Carpet Sage Pollen Extract-Arlco; Greasewood Pollen Ex-

tract-Arlco; Hill Sage Pollen Extract-Arlco; Johnson Grass Pollen Extract-Arlco; Mexica Tea Pollen Extract-Arlco; Mountain Cedar Pollen Extract-Arlco; Orach Pollen Extract-Arlco; Pigweed Pollen Extract-Arlco; Prairie Ragweed Pollen Extract-Arlco; Russia Thistle Pollen Extract-Arlco; Sage Brush Pollen Extract-Arlco; Sea Blite Pollen Extract-Arlco; Shad Scale Pollen Extract-Arlco; Western Ragweed Pollen Extract-Arlco; Wild Sunflower Pollen Extract-Arlco.

Pollen Extracts-Arlco are marketed in sets of five vials representing graduated concentrations; also in concentrated solution in capillary tubes for diagnostic test.—Arlington Chemical Co., New York.—*Jour. A. M. A*, July 28, 1923.

PROPAGANDA FOR REFORM.

The Dreyer Tuberculosis Vaccine.—Newspapers have carried extended notices of the Dreyer so-called "defatted" tuberculosis vaccine. The experiments of Professor Dreyer of the Department of Pathology of Oxford University depend on the production of an antigen preparation from tubercle bacilli which are previously deprived of their waxy envelope by treatment with a formaldehyd solution. Animal experiments and some clinical trials have been reported which give ground for the hope that the new antigen may prove of value. Professor Dreyer's work does not offer sufficient evidence to warrant the conclusion as yet that any marked improvement has been made in the treatment of tuberculosis.—*Jour. A. M. A.*, July 14, 1923.

Another Electronic Diagnosis and Treatment.—A report on the case of Mr. D., who was treated for carcinoma by C. E. Phelps, M. D., an Abrams disciple of Hartley, Iowa, is of interest because it represents, undoubtedly, what is duplicated in hundreds, if not thousands, of cases, in various parts of the country. The clinical report is by Dr. E. E. Munger of Spencer, Iowa, and the pathological report was made by Dr. E. R. LeCount of Chicago. Briefly, it is the story of a man in his seventies suffering from inoperable carcinoma of the stomach with implanted metastasis on various other abdominal organs. Dr. Munger diagnosed the condition when the patient first came to him. The diagnosis was verified at the Mayo Clinic. Then the man began taking the "Abrams treatment." He was led to believe that he was being rapidly cured and was finally told that "everything has cleared up except a trace of colisepsis." A month later he died.—*Jour. A. M. A.*, July 28, 1923.

Alcohol and Disease.—Recently a statistical report regarding the possible influence of alcohol on the prognosis of pneumonia in a large municipal hospital has been published. The data for nearly 3,500 cases of lobar pneumonia showed that, with reference to the patient's habits of indulgence in alcoholic drinks, that the mortality was higher in moderate users than in light users or abstainers, and that the mortality is much higher in excessive users than in moderate users. It must be borne in mind, however, that these statistics have no bearing on the use of alcohol in therapy.—*Jour. A. M. A*, April 7, 1923.

Ethyl Chlorid as a General Anesthetic.—The published mortality rate from ethyl chlorid anesthesia varies from 1 in 15,000, which is also the mortality rate of ether anesthesia, to about 1 in 6,000. From these statistics, therefore, one might judge that ethyl chlorid stands between ether and chloroform; but it is probably closer to the latter, which gives a mortality of about 1 in 3,500. Ethyl chlorid, however, is used for minor anesthesia, and it is unfair to compare it with the major anesthetics for prolonged operations. The fair comparison for ethyl chlorid is with nitrous oxid, the accepted mortality rate from which is about 1 death in 1,000,000 anesthesias. Hence, whether for induction of anesthesia or for minor anesthesia, ethyl chlorid is somewhere between 200 and 66 times more dangerous than nitrous oxid. It is, on the other hand, somewhat safer than chloroform. The essential danger from ethyl chlorid lies in the suddenness of the death which may occur within half a minute from the beginning of the inhalation. The danger signs are such as may be overlooked by any but the most experienced anesthetist. —*Jour. A. M. A.*, July 28, 1923.

NEWS

Addition to Jacksonville Sanitarium.—Contract for a new building for the Cherokee Sanitarium, Jacksonville, Texas, has been let to C. W. Marshall of Jacksonville. Work will begin at once.

Dr. George F. Powell has been reappointed superintendent of the North Texas Hospital for the Insane at Terrell. He begins his thirtieth year in charge of this institution, and his twenty-fourth year in its service. He began there as third assistant physician, during Governor Hogg's administration.

Dr. Sherwood Heads American Legion.—The recently adjourned annual convention of the American Legion, Department of Texas, elected Dr. M. W. Sherwood of Temple, department commander. His election followed a warm contest and a close vote. Dr. Sherwood was also made a delegate to the national convention, to be held at San Francisco later on in the year.

New Superintendent for Rusk Insane Asylum.—Dr. C. W. Castner of Terrell, at the present time assistant physician in the North Texas Hospital for the Insane, has been appointed superintendent of the East Texas Asylum for the Insane at Rusk, and has accepted the appointment. Dr. Castner has been with the North Texas institution since 1915. In his new position he succeeds Dr. W. J. Johnson of Rusk, formerly assistant physician in that institution.

The Mississippi Valley Medical Association will hold its Forty-Eighth Annual Session in Hot Springs, Arkansas, October 9-10-11. A scientific program containing notable features has been prepared. Of particular worth is the symposia on Cardio-Vascular Renal Diseases and on Diseases of the Upper Abdomen, to both of which authors of considerable note have contributed papers. The meeting has been so planned as to offer those who attend a delightful combination of recreation and scientific study. Headquarters will be at the Eastman Hotel. The profession of Texas is invited to attend this meeting.

Tri-State District Medical Association (Iowa, Illinois, Wisconsin and Minnesota), will meet in annual session in Des Moines, Iowa, October 29-30-31 and November 1. The profession of Texas is cordially invited to attend this meeting. This organization is purely post-graduate and those who attend are assured several days of interesting and helpful scientific study. The program comprises a most astonishing collection of contributors. There are too many to list in a single news item. Among those well known to Texans, might be mentioned the following: Drs. Fred H. Albee, New York; Frank Billings, Chicago; Geo. W. Crile, Cleveland; John B. Deaver, Philadelphia; Leonard Freeman, Denver; Dean Lewis, Chicago; Chas. H. and Wm. J. Mayo, Rochester; Wm. S. Thayer, Baltimore; Ray Lyman Wilbur, California; John A. Witherspoon, Nashville; Hugh H. Young, Baltimore.

SOCIETY NEWS

Dallas County Medical Society met July 26, 1923, at Dr. C. M. Rosser's country home, at White Rock, with 40 members present.

Dr. R. B. Giles presented a woman, 43 years of age, with an orthostatic albuminuria. If she remains in bed the albuminura clears up. Cause not known.

Dr. W. T. White reported the case of a child six years of age, with an elevation of temperature for several weeks, and a leucocyte count of 39,000. Physical examination revealed a mass in the left side surrounding the pole of the kidney. Upon operation a peri-nephtitic abscess was found, with excessive drainage. The special points of interest in the case are, the child's age and the length of time before the diagnosis was made.

Dr. C. M. Grigsby reported a case of Hodgskins disease, with a high temperature, this being an unusual symptom.

The following reports on "Current Literature" were made:

Dr. R. M. Barton called attention to an article on "Diagnosis of Endocarditis," by Dr. Geo. R. Herrman, in the Medical Clinics of North America.

Dr. F. H. Newton had read an interesting article by Gifford of Omaha, Nebraska, on differentiation between glioma of the retina and vascular coat of the crystalline lens. He also reported on an article relating to test for feigning deafness, by tuning forks at the end of a tube two feet long.

Dr. Denton had read a news item in a dental journal on a test of health for promotion in the public schools.

Dr. C. C. Nash had read an article in the *Surgical Clinics*, for August, 1923, by Dr. Carl Beck, on local anesthetics in abdominal work, in which the method of using novocain in operations on the stomach for gastric ulcer, etc., was discussed.

Dr. C. M. Grigsby read a paper entitled "Classification and Treatment of Nephritis," which was discussed by Drs. Giles, Young and Ramsey Moore.

Dr. C. H. Warren read a paper on "Appendicitis in Children," which was discussed by Drs. W. T. White, Small, Perkins and Nash.

In discussing Dr. Warren's paper, Dr. White reported the case of a child with an appendiceal abscess with symptoms resembling indigestion. The child was playing around as usual. Upon operation a pin was found in the appendix, the point of which had eroded and cut the appendix half in two: There was also an eroded place in the bowel, produced by the head of the pin.

Dr. J. H. Ryon was elected to membership on application.

The applications for membership of Drs. W. F. Pickett and F. W. B. Rockett, were referred to the Board of Censors.

The following resolutions, by Dr. O. M. Marchman, were adopted:

Resolved, That it is the desire of the Dallas County Medical Society to encourage all scientific advancement toward more certain diagnosis and more successful treatment of diseases, and to not too hastily decide against new methods involved in either. In connection with the general subject of the Abrams Treatment, it is the opinion of the society that it is wholly without merit and that because of the delay which its use compels, it is positively dangerous to the public before which it is exploited in the manner characteristic of the usual fraud.

Resolved, Second, that pending further investigation, which is now being made by the board of censors, this society advises against the employment of the Abrams Treatment, or professional affiliation or consultation with anyone who either advocates its use or employes it as a method.

A vote of thanks was extended to Dr. Rosser for his hospitality, in entertaining the society.

Dallas County Medical Society met August 9, with 33 members and 2 visitors present.

Dr. J. R. Holderness read a paper on "Syphilis," which was discussed by Drs. Boyd, Ramsey Moore and McReynolds.

Dr. F. A. Pierce read a paper entitled, "Low Cervical Cesarean Section: Trachelo-Laparatomy," which was discussed by Drs. Holderness, Watson and Ard.

Dr. J. T. Watson reported the case of a girl with trachea severed in an automobile accident. The trachea was replaced and stitched with ten-day chromacized catgut. The patient was fed per rectum for several days, when a tube was passed into the stomach through an esophagoscope, since which time she has been fed through this tube. She is now able to swallow some and seems to be making a good recovery.

Dr. J. M. Coble reported a case of appendicitis, in which the pain was referred to the region of the liver and gall-bladder. Upon operation, the appendix was found to have been ruptured.

Dr. Guy T. Denton reported the case of a sirl 16 years of age, with Vincents angina, and a temperature ranging as high as 104°F. The patient was treated with Fowler's solution and applications of nitrate of silver to the affected parts. She made a good recovery.

Dr. Geo. M. Underwood, reporting on current literature, stated that he had read an article by Coffman in the *American Journal of Medical Science*, on Gastro-Intestinal Spasticity which gave an account of symptoms of tetany following an operation for gall-stones. The patient continued to have addominal pain, and an *x*-ray revealed very active peristalsis. A second operation was performed and the common duct found to contain pus. Metabolism test showed a marked loss of calcium through the urine and stools. Calcium chloride was given intravenously, and the patient made a complete recovery. He had read two other articles on tetany in the *Southern Medical Journal*, one on etiology and pathogenesis by Barker, and one on treatment of tetany, by Stuart Roberts of Atlanta.

Drs. T. S. Love and J. A. Hampton, were elected to membership on application.

The application for membership of Dr. Homer Powell, was referred to the Board of Censors.

Dr. O. M. Marchman announced that Dr. Groseclose of the Dallas Sanitarium, had extended an invitation to the members of the society to attend a barbecue on the sanitarium grounds, August 23. The invitation was accepted.

El Paso County Medical Society met August 18, in special session, in honor of Dr. A. C. Scott of Temple, president of the State Medical Association of Texas.

Following a dinner at Hotel Paso Del Norte, Dr. Scott delivered an extended address on the problems of the State Medical Association. He briefly related the history of recent legislation, reciting somewhat in detail the activities of the chiropractors and christian scientists in opposing amendments to the Medical Practice Act and of the former in seeking a law exempting that gentry from the application of the Medical Practice Act as amended. He related some of the difficulties experienced by our officers and committeemen in securing legislative help and in overcoming the ill effect of the considerable activities of the irregulars.

Dr. Scott outlined the plan at present being perfected for the organization of the public to cover

this most important field. County medical societies will soon be asked to create committees for the purpose of inviting participation in this work, while the committees so appointed will do this in accordance with well worked out plans, selecting only public-spirited and level-headed citizens for the membership of the organization in contemplation. These organizations will investigate and advise on all subjects pertaining to medical and public health legislation. They will be of such quality and type that they can be made to understand scientifically proven facts and distinguish them from unsupported theory. In order to accomplish the best results along this line, it is recognized that considerable educational effort will have to be made, first as relates to the medical profession and then to the public itself. The doctor must first know the facts and understand how to present them, and then the public must be made to understand its proper relationship to the doctor. If the truth is known there will be no difficulty in the matter of securing proper health legislation; and neither will there be difficulty in defeating baneful legislation as relates to both health and the practice of medicine. In order to accomplish results along this line there must be ample money at hand, and it is planned to ask the Board of Councilors to secure volunteer subscriptions on a $5.00 per capita basis, from county societies in their respective district. It is calculated that the medical profession of Texas does a business of not less than $7,000,000 per year. Were this business in the hands of a single corporation, it would not think of spending less than from 1 to 5 per cent in keeping its good points before the public and keeping business in a healthy condition. The amount of a fund raised on such a basis is easily calculated and would be much in excess of any money heretofore spent in any single year for this purpose. Dr. Scott, replying to an inquiry, stated that the medical profession spent in legislation last year scarcely 5 per cent of the amount of money spent by the opponents of legitimate medicine.

In the matter of prosecuting offenders against the Medical Practice Act, Dr. Scott advised that caution be exercised. He urged that doctors take no part in prosecutions except upon invitation, other than to advise legal enforcement officers that these people are violating the law and to point out the harmful effects of such offenses. The doctor alone has a comprehensive idea of the harmful effects of the efforts to practice medicine of ignorant imposters and quacks. Above all things, prosecution on trivial offenses should not be advised. As a matter of fact, the violation of the law is the same whether harm has been done or not, but if harm has not been done or the offense does not appear to be hurtful, these offenders will incur sympathy by their prosecution rather than suffer deterrent penalty, and the chiropractors in particular are anxious for an opportunity to cry persecution and point to individual cases.

Red River County Medical Society met at Clarksville, July 9, with the following members in attendance: Drs. Dinwiddie, Gold, Stiles, Smith, Scaff, Edrington, Terry, Watson, Lunsford, Meers, Durrum, Chambless and Sellers. The following visitors were also present: Dr. W. H. Beazley, State Health Officer, Austin; Mr. V. M. Ehlers, sanitary engineer, Austin; Mr. Hopkins, sanitary engineer, Clarksville; Dr. J. K. Smith, councilor, Texarkana; Dr. J. M. White, Texarkana.

Dr. Beazley delivered an address, touching on numerous of the problems of the State Board of Health, among which he stressed the subjects of birth registration, infant mortality, prenatal care, mosquito eradication and garbage disposal. Touching on the importance of birth certificates, the speaker recited the instance of a boy born in Austin, Texas, who recently sought to return to this country following a visit to Russia, only to be denied permission to land except as an immigrant, and in his turn, because there was no birth certificate on record showing that he was in fact a native of this country. He stated that approximately 10,000 infants die in Texas annually because of faulty prenatal and infant care, and diseased mothers. In this connection, he advised that the State Department of Health is prepared to furnish prenatal letters, numbered and in proper sequence, to expectant mothers, upon request of attending physicians. He complimented Red River County on its effort to eliminate the mosquito as the cause of disease, and praised the society for its share in pushing this work.

Mr. Ehlers addressed the society, discussing the recent epidemic of bubonic plague on the Gulf Coast, the disposal of human and other excreta, and the part played by water in the spread of typhoid fever. He closed his talk by the statement that the State Health Department is prepared to make analyses of water supposed to be polluted.

Councilor Dr. Smith, of Texarkana, addressed the society in the interest of the impending publicity campaign, offering to lend assistance in carrying on this work during the Red River County Fair, soon to be held. He supported Dr. Beazley in his plea for closer attention to public health matters. He announced the forthcoming meeting of the district society at Longview, in October.

Dr. J. N. White of Texarkana, discussed numerous problems of organized medicine and the public health.

Drs. Dinwiddie, Scaff and Nowlin Watson, were appointed a committee on publicity campaign. A membership committee, consisting of Drs. Stiles, Terry, and Dinwiddie, was also appointed.

On motion, the visitors were thanked for their attendance and addresses.

El Paso Personals.—Dr. John W. Brown, city health officer, will attend a course in public health work in Johns Hopkins University. He will be gone eight months, and during his absence Dr. R. A. Wilson, assistant city health officer, will be in charge. The U. S. Public Health Service has generously loaned to Mayor Dudley, upon the mayor's request, Dr. John W. Tappan and Mr. R. E. Tarbett, the latter a sanitary engineer in the U. S. Public Health Service. They will act in an advisory capacity.

Dr. James Vance is on an extended trip to the Pacific Coast, visiting Portland, Tacoma and Spokane, and neighboring scenic wonders. He will extend his trip into Canada.

Dr. Andres Villareal and family have returned from a vacation trip to California.

Dr. W. L. Brown has recently returned from California, where he and his family visited for some time during the summer months.

Dr. W. S. Sharp, during the summer, visited the Northwest States, including Oregon and Washington in his itinerary.

Dr. J. M. Richmond is in New York, where he went to meet his wife, but recently returned from Europe.

Dr. F. P. Miller visited his family in San Diego, California, during their vacation this summer.

Dr. Burleson Staten has recently returned from the Mayo Clinic, where he has been for some time undergoing treatment.

Dr. Guido Ranniger, Oscura, N. M., died at the Masonic Hospital in El Paso, August 17.

Dr. E. B. Rogers is spending his vacation in California.

Drs. Henry Hartman and C. T. Stone of Galveston,

recently visited El Paso and Cloudcroft on a vacation trip to New Mexico.

Dr. J. A. Chilton, formerly of Colorado Springs, Colorado, has recently accepted a position in the Hendricks-Law Sanatorium, succeeding Dr. R. G. Fuller, who resigned to take up service at the Soldiers' Home at Sawtelle, California.

The Masonic Hospital in El Paso, has employed a historian, so-called, for the use of physicians in taking case histories and recording observations during the progress of cases. The historian will take dictation at the bedside. The innovation is proving highly satisfactory.

Dr. Paul Gallagher, whose health has been somewhat below par recently, is recuperating in California.

Dr. W. L. Brown suffered an attack of ptomaine poisoning recently, spending a week in bed at Hotel Dieu.

Major Jacob C. Bowman and Captain Gordon A. Clapp, M. C. U. S. A., have recently reported to the William Beaumont General Hospital for duty. Both of these officers have just returned from duty in the Philippine Islands.

The William Beaumont General Hospital has recently completed a physio-therapy building, in which has been installed the latest development in the electro-cardiograph.

Dr. M. S. Malloy has resigned as assistant city physician and returned to Old Mexico, where he will enter practice.

Dr. J. W. Britton recently visited Los Angeles, California.

Dr. A. B. Perkey, recently of El Paso, and at this time residing in Los Angeles, is reported as in a precarious state of health. He has been forced to temporarily retire from practice.

Dr. George Brunner and family have returned from an extended visit to California.

Lieutenant Colonel C. M. Hendricks and Major H. M. Shannon, both of the Medical Reserve Corps, spent two weeks in an army training camp at San Antonio recently.

Dr. T. L. Moody of San Antonio, visited El Paso during the month of July.

Dr. H. T. Safford has returned from a vacation in the East, where he attended clinics, combining business with pleasure.

CHANGES OF ADDRESS.

Dr. C. H. Hobbs, from Marysville, Texas, to Cedar City, Utah.

Dr. J. A. Monk, from Kempner to Marlin.

Dr. Mary Farrar, from Cleburne to Oak Cliff.

Dr. Thos. W. Glass, from Dallas to Maypearl.

Dr. M. J. Perkins, from Laredo to Alice.

Dr. J. B. Morgan, from Bishop to Taft.

Dr. W. A. Hill, from Denison to Galveston.

Dr. J. M. Armstrong, from Coleman to Garland.

Dr. W. H. Jones, from Burkburnett to Tonkawa, Okla.

Dr. A. F. Leach, from Weatherford to Wichita Falls.

Dr. J. E. Root, from Temple to Norfolk, Va.

Dr. Howard Thompson, from El Paso to Mescalero, N. M.

Dr. H. Garst, from Pharr to Austin.

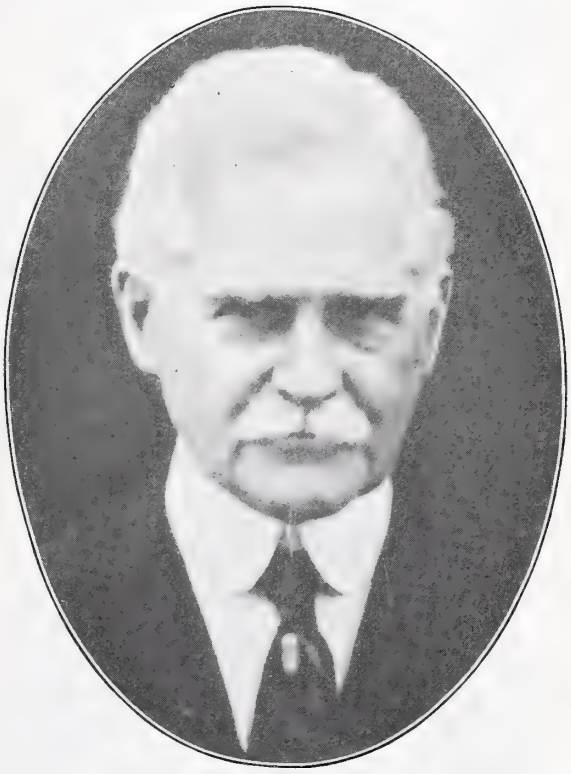
Our members are requested to make careful check on the obituary notices appearing in these columns. We are extremely desirous of securing obituaries, and if possible photographs, of every Texas physician who dies and who has been an honorable, conscientious practitioner, whether or not he was at the time of his death a member of the Association. Any assistance rendered in this manner will be greatly appreciated.—THE EDITOR.

DEATHS

Dr. Homer Hill, of Austin, Texas, having reached the age of seventy-three years, died at the home of his daughter, Mrs. Lutcher H. Stark, Orange, Texas, July 10, 1923.

His father, James Monroe Hill, and his mother, Jane Kerr Hill, came to Texas from Tennessee when Texas was a republic. His father was a veteran of the battle of San Jacinto, as well as of the Civil War.

Dr. Hill was born in Fayette county, Texas, January 5, 1851. He received the degree of Doctor of



DR. HOMER HILL.

Medicine from Tulane University, in 1874, graduating with honors. He was a classmate of Dr. Matas, who remained his friend throughout life.

In 1881 Dr. Hill married Miss Ella Rankin, of Chapel Hill. They were blessed with one child —Mrs. Lutcher Hill Stark of Orange, Texas. After his marriage, Dr. Hill began the practice of medicine in Galveston. He was offered a position as instructor in the Medical College, afterward the Medical Department of the University of Texas, which he was forced to decline on account of bad health. The climate was of such effect upon his health that he moved to Goy Hill, Texas, where he remained until 1889, when he moved to Austin, where he remained until his death.

The life of Dr. Hill was that of the highest type of southern gentleman. He was a strong and active supporter of morality and religion in all questions of private and public life. He was a constant student, and devoted an immense amount of his time to the relief of those from whom he never expected any monetary return. As he had occasionally said, "I've received the widow's mite; a barnyard gift—a bushel of oats or a heifer calf." He had a high sense of responsibility, and readily assumed re-

sponsibility for others. Though old in years, he loved young life, being full of sympathy, always charitable and ready to advise and encourage young peopie.

For many years, in fact since athletics were established at the University, he had been connected with that department as medical adviser, remaining so until his death. The old athletes will remember him; the boys of today will bemoan his loss, and those to come will miss his sympathy and counsel. His wife, Mrs. Hill, who preceded him some two years in death, was known to everyone in University circles as "Granny" Hill. He had long been a worker in medical organizations, and had filled practically every office in county and district medical societies. His life was unique—complete in years, pure and noble in actions, and filled with a wholesome love for his fellow man.

Dr. Richard G. Jones of El Paso, died at his home, July 10, 1923.

Dr. Jones was born near Bessmay, Texas, in 1894. He received his preliminary education in the schools of the neighborhood, graduating with honors from the Buma High School at the age of 14. While he at this time intended to study medicine, it was thought that he was rather young, and he entered A. & M. College at Bryan, instead, working his way through that institution and graduating with honors. He then took up the study of medicine in the Vanderbilt University, where he served for a time as instructor in anatomy. He later studied in the Kansas City College of Medicine and Surgery,

DR. RICHARD G. JONES.

from which institution he obtained his degree in 1919. Following his graduation, be began practicing in Silver City, N. M., to which section he removed because of the condition of his health. At this place he was connected with the New Mexico Cottage Sanatorium, which he had charge of during the absence in France of the superintendent.

Dr. Jones was married to Miss Maude Elizabeth Phillips, daughter of the late B. M. Phillips of Llano county, immediately following his graduation. His wife and a daughter survive him.

Dr. Jones was a man of considerable personal magnetism, and he was widely known and liked. He was always interested in the civic enterprises of his community. He was a Mason of high standing, a member of the Presbyterian Church and a Woodman of the World. He was a member of the El Paso County Medical Society and a Fellow of the American Medical Association. His funeral was conducted by the pastor of the First Presbyterian Church at El Paso, and was attended by the El Paso County Medical Society in a body.

Dr. C. A. Penman of Beaumont, met his death at the hands of unknown parties, July 24, 1923.

Dr. Penman was born in Chicago, Illinois, April 26, 1885. He attended school during his younger

DR. C. A. PENMAN.

years in East Chicago, and took the degree of A. B. in the University of Michigan, Ann Arbor, in 1907. He received his degree in medicine from Rush Medical College, Chicago, in 1910, finishing his medical education with a year's internship in the Cooke County Hospital. Following his internship, he entered the practice of general medicine in Wyoming, where he remained for three years, removing to Beaumont in 1914, where he was connected with the State Health Department, in charge of a venereal disease clinic. He continued this work during 1919-1920, in the meantime engaging in private practice, specializing in urology. He soon took a post-graduate course in urology at Toyola University, New Orleans, in 1920, and later a course in *x*-ray and laboratory work in Chicago. In May, 1923, he formed a partnership with Dr. Frank Mabry of Port Arthur, opening a clinical laboratory, and specializing in *x*-ray and skin diseases. The connection of

Dr. Penman with the Public Health Service was continued during this time.

Dr. Penman was a member of the Medical Advisory Board of Jefferson county at the beginning of the World War, and subsequently of the Medical Volunteer Corps. He had been connected with organized medicine since the beginning of his practice, and had served as secretary and president at different times, of the Jefferson County Medical Society. He had been for some time engaged in lecturing to boys of adolescent age, at the local Y. M. C. A., on the subjects of social hygiene, and had for some time been lecturing to the nurses at Hotel Dieu Training School on the subject of psychology. He was very much interested in problems of social welfare and community work in general. He had contributed somewhat to the literature on these subjects, some of his articles receiving publication in medical journals. He was a Mason, and a member of the Episcopal Church.

Dr. Penman was twice married. His first wife was Miss Carmen B. Sheeks of Chicago, who died in 1918, leaving three children. In June, 1921, he was married to Miss Annie Lanier of Beaumont, who bore him one child, a boy. He is survived by his mother, his second wife, four children and a sister.

Dr. Chas. Spiller of Willis, Texas, died July 19, 1923. He was born at Danville, Montgomery county, Texas, December 8, 1876, to which place his body was taken for burial. He completed a course in bookkeeping and surveying at the Southwestern University, Georgetown, Texas, in 1896, and received his degree in medicine from the Medical Department of the University of Texas, in 1904. He was married to Miss Birdie Wallace in 1906.

DR. CHAS. SPILLER.

Dr. Spiller was an Elk and a Shriner, and for a number of years had been a member of the Montgomery County Medical Society.

Dr. M. W. Brian of Hillsboro, Texas, committed suicide August 9, 1923, which act was believed to be the result of despondency over ill health since undergoing an operation some two years ago.

Dr. Brian was born at Independence, Missouri, in 1875, and was left an orphan at an early age. He received his literary education in the common schools of his community, graduating from the Independence high school. At the age of 20, he began the study of medicine in the Memphis Hospital Medical College, Memphis, Tennessee, from which institution he graduated with honors in 1890. He at first practiced for a large sawmill company in Arkansas. He later married and moved to Texas, locating in Itasca, where he formed a partnership with Dr. Maner, who died some twenty years ago. Dr. Brian's wife died a few years after they were married, leaving a small daughter, now Mrs. Gladys Dunlap of Hillsboro. Dr. Brian was later married to Mrs. London, who survives him, and moved to Lovelace, Texas. He had been practicing in Hillsboro for the past twenty years, and stood high in the ranks of his profession, and as a citizen. He had for many years, until the present year, been a member of the Hill County Medical Society.

Dr. E. D. Ward of Hillsboro, Texas, died July 27, 1923, following several weeks illness.

Dr. Ward was born in Tuscaloosa, Alabama, in 1869. He received his medical education in the Chattanooga Medical College, graduating from that institution in 1893. He practiced for several years at Dawson, Texas, and spent thirty years at Blum, Texas, where he enjoyed a large practice prior to going to Hillsboro. While living at Blum, he served two terms as city commissioner. He was a member of the Baptist Church, a Mason and an Odd Fellow, and had been a member of the Hill County Medical Society for more than twenty years. He is survived by his wife, two sons, E. L. Ward of Electra and Jesse Ward of Hillsboro, and two daughters, Mrs. Joe H. Clark of Blum and Miss Aaron Ward of Hillsboro.

BOOK NOTES

In the mass of scientific literature which appears year after year there occurs, very occasionally, an article which presents the results of experiment or investigation that prove epoch-making. These articles, though recording masterpieces of scientific research, are buried with valueless or ephemereal writings. CAMAC, in Epoch-Making Contributions to Medicine and Surgery. Philadelphia, 1909.

The Medical Department of the United States Army in the World War. Volume I. The Surgeon General's Office. Prepared Under the Direction of Maj. Gen. M. W. Ireland, M. D., Surgeon General of the Army, by Col. Charles Lynch, M. C., Lieut. Col. Frank W. Weed, M. C., Loy McAfee, A. M., M. D., Washington, Government Printing Office. Procurable from the Superintendent of Documents, Government Printing Office, upon payment of $3.00 per copy, the purchaser agreeing not to resell for profit. Pub. Res. 57, Approved May 20, 1922.

The present systems of military medical organization the world over are based on the plan of Jonathan Letterman (1862), who was medical director of the Army of the Potomac, who "installed an effective hospital service, and instituted a system of transportation of the wounded in charge of an ambulance corps, making the hospital adequate to the needs of even such great battles as Chancelorsville and Gettysburg," which "organization thus created formed the basis of the military medical administration during the remainder of the (Civil)

war."—(*J. E. P., in Kelly's Cyclop. of Am. Med. Biog'y.*)

Brigadier General John Moore, Surgeon General, U. S. Army, directed the preparation and publication of the third part of volume one of the "Medical and Surgical History of the Rebellion," by Charles Smart, Major Surgeon, U. S. A., given to the profession in 1888. Parts one and two had been published in 1870 and 1879, respectively. General Moore was commissioned Assistant Surgeon in 1853, and became Surgeon General in 1886. He retired in 1890. He introduced instruction in first aid in the service in 1886, and 1887 organized the Hospital Corps of the Army.

The text of this volume deals with the Surgeon General's Office. It is divided into three sections and these into twenty-two chapters. It shows the division of the service for every emergency. The whole is illustrated with nine plates and twenty-four charts.

Fifteen volumes will compose the entire set.

Volume II will cover Administration, American Expeditionary Forces (Central Administration; Hospitalization); Volume III, Finance and Supply (United States; American Expeditionary Forces); Volume IV, Camps, Posts and Ports; Volume V, Hospital (United States); Volume VI, Sanitation (United States; American Expeditionary Forces); Volume VII, Instruction and Training; Volume VIII, Field Operations, American Expeditionary Forces; Volume IX, Communicable and Other Diseases; Volume X, Neuropsychiatry; Volume XI, Surgery (General Surgery; Empyema; Maxillofacial Surgery; Ophthalmology; Otolaryngology; Neurological Surgery; Orthopedic Surgery); Volume XII, Roentgenology; Volume XIII, Physical Reconstruction; Nursing Service; Volume XIV, Gas Poisoning; Volume XV, Statistics, (Army Anthropology; Medical Casualty Statistics).

The Editorial Board is composed of Col. Lynch, M. C., Editor-in-Chief; Dr. McAfee, C. S., Assistant Editor-in-Chief; Cols. Ashford, Billings, Boggs, Brewer, Chamberlain, Craig, Emerson, Ford, Gilchrist, McKernon, Morris, Morse, Oliver, Reynolds, Salmon, De Schweinitz, Siler, Tuttle, Weed, Welch, Wolfe, Wood, and Zinsser, and Brig. Gens. Finney, Kean and Thayer. (These ranks are the highest held by these officers during the World War.)

This work was begun in the Surgeon General's Office in 1919, by the organization of an historical board, and the assignment of all the subjects to be covered to authors who had been in position to become familiar with them. It is, therefore, under strict military rules, and bears the imprimitur of the Chief of the Historical Branch of the Army War College. It is published by virtue of an appropriation made by Congress, of not to exceed $150,000.

It is to be sincerely hoped that a sufficient number of this most important work will be issued to supply the demand.

Physical Diagnosis. By W. D. Rose, M. D., Lecturer on Physical Diagnosis and Associate Professor of Medicine in the University of Arkansas; Visiting Physician, Little Rock City Hospital, Baptist Hospital and St. Vincent's Infirmary, Little Rock, Ark. Third Edition, 8vo., pages 755, cloth, 300 illustrations. C. V. Mosby Company, St. Louis. $8.50.

Dr. Rose has rewritten the entire section which deals with the physical examination of the circulatory system, adding much material covering the recent advances in the subject. He has also brought the chapter on blood pressure up to date, treating polygraphy in greater detail. He has added a chapter on electrocardiography and the diagnosis of the arrhythmias, by Dr. Drew Luten of Washington University School of Medicine. New illustrations are also to be found. The author is a Southern man and an able writer, writing from the viewpoint of southern medical practice.

The book is divided into four parts, and subdivided into thirty-four chapters, treating the following subjects: Part I, Clinical Anatomy of the Thorax; Examination of the Respiratory Organs; Inspection; Palpation; Percussion; Auscultation; Thoracometry and Thoracentesis; Radiographic Diagnosis; Diseases of the Bronchi; Circulatory Disturbances of the Lungs; Diseases of the Lungs; Diseases of the Pleura; Physical Examination of the Circulatory Organs; Sphymomanometry; Diagnosis of Abnormalities of the Heart Beat, (Dr. Drew Luten); Diseases of the Circulatory Organs; Pericardium, Endocardium and Valves, and Myocardium; General Examination of the Abdomen; Clinical Anatomy of the Abdomen; Inspection of the Abdomen; Palpation, Percussion, Auscultation and Mensuration of the Abdomen; Special Examination of the Stomach, Intestines and Pancreas; Examination of the Liver and Gall Bladder, Spleen, Kidneys, Bladder, Ureters, Head, Neck, Hand, Forearm and Arm, Foot, Leg and Thigh; Motor and Sensory Phenomena; Station, Gait and Muscular Power; Tremor; Sensory Phenomena; Reflexes, and Cranial Nerves.

The book is well written and aptly illustrated. It is a good piece of mechanical workmanship.

Exercise in Education and Medicine. By R. Tait McKenzie, M. D., LL. D., Professor of Physical Education and Physical Therapy, and Director of the Department of Physical Education, University of Pennsylvania. Octavo of 601 pages, with 445 Illustrations. W. B. Saunders Company, Philadelphia and London. 1922. Cloth, $5.00 net.

Of all the books being published in the field of practical therapeutics, none are of more worth while than a good text upon exercise. No medicine can compare with the benefits of wise and regular exercise for the great majority of the undernormal. No other book has been laid upon our table that has been as much value to us in our person as has this one in its former editions. It showed us the ruinous effects of the sedate life, and the consequent neglect of the normal offices of natural functions, and taught us to know that the normal requirements of living organisms are action, immediate response to nature's demands:

"When Nature knocks at either door,
Never try to bluff her,
But haste away, in night or day,
Or Health is bound to suffer."

When the world found itself face to face with the need of manhood's brain and brawn to cope with a resistless, beastly foe to its cherished civilization and of life itself, it found its physical unpreparedness well nigh universal, and many months of time and myriad of human lives were sacrificed. A regime of "setting up" exercises proved sufficient to improve the American Army (and perhaps other armies) to such a degree of superiority that the tide of war was turned and civilization saved a demoniacal "kulter" of lust. The author has improved his text with all the lessons of the World War, producing a new work of incomparable value to both educational and medical institutions. It is in keeping with and true to the best methods of training for the sick and the healthy. The book stands alone in its field.

Texas State Journal of Medicine

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9. W. B. Thorning, *Houston*
10. D. S. Wier, *Beaumont.*
11. R. H. McLeod, *Palestine*
12. N. D. Buie, *Marlin*
13. J. F. Bunkley, *Seymour*
14. A. B. Small, *Dallas*
15. J. K. Smith, *Texarkana*

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DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH OF TEXAS

The Plans of the Council on Legislation and Public Instruction have been perfected, at least as to generalities. Many of the details have not yet been worked out, and will probably not be worked out in full in advance of action. Our readers are primarily interested in its scope and character, and only secondarily interested in the method of procedure. We will discuss such of these as would appear to be of moment at this time.

It will be recalled that at the Fort Worth session of the State Association, the Council on Legislation and Public Instruction was enlarged to a membership of twelve, and that some of our tried and trusted leaders, those informed on such matters, were selected to serve for periods of from one to three years, not considering the members *ex-officio*. Drs. C. M. Rosser of Dallas, I. C. Chase of Fort Worth and H. W. Cummings of Hearne, fill the short term. Drs. Joe Becton of Greenville, S. E. Thompson of Kerrville and A. F. Beverly of Austin, will serve for two years. Drs. A. A. Ross of Lockhart, M. F. Bledsoe of Port Arthur and W. B. Russ of San Antonio, drew the three-year term. President Dr. A. C. Scott of Temple, Dr. W. B. Thorning of Houston, Chairman of the Board of Councilors, and Secretary Dr. Holman Taylor of Fort Worth, serve as members *ex-officio*.

It will be recalled, further, that the Council was directed to launch a campaign of publicity and so conduct it that the lay public of this State may eventually come to understand the practical facts relating to health, from the simplest rules of sanitation to the most complicated and intricate facts of the practice of medicine as a profession and a service to to the public. In order to launch such a movement, which it was understood would be expensive, the Council was authorized to raise a fund from among those interested in such matters, on a volunteer basis. It was understood, of course, that this fund would come principally from the members of our Association, and county societies were urged to contribute to such a fund on a basis of not less than $5.00 per capita.

The Council on Legislation and Public Instruction has proceeded in keeping with these directions, and has asked the Board of Councilors, each councilor in his own district, to promote the collection of the fund. The councilors are proceeding accordingly, and already there has been contributed, principally by individuals, the sum of $850. Only one county society has taken action officially, and that is the youngest in the Association, Red River County. This society, as soon as it learned that the councilors were ready to begin raising the fund, very promptly collected the sum of $50 from those in attendance at one of the regular meetings.

Assuming that the necessary funds would be forthcoming, the Council has decided that its plan will for the immediate present have for its object the arousing of its own members to their obligations to the public in this regard. Councilors, members of the Council on Legislation and Public Instruction, and others selected by the latter, will visit county societies in the near future, in the furtherance of this plan.

The next step will be the promotion of public health meetings throughout the State, wherever opportunity may offer, and on whatever phase of public health may seem advisable. Speakers will be selected to address these meetings, and arrangements made for defraying all of the expenses of the proposed meetings, including publicity, traveling expenses and the like. The great variety of subjects that can be utilized in such a campaign is an important factor. The cancer campaign is upon us now. That subject is intimately connected with quackery and fraud, and it is of prime importance that the public understand the pitfalls and snags in the way. The tuberculosis campaign will follow closely, and in what field has quackery and ignorance done more harm in the past? And we might observe, that because of the extended publicity in this particular field, quackery has, comparatively speaking, ceased to be a large factor. There remain, of course, a few patent medicines which appeal to the unusually credulous and ignorant, and occasionally a pseudo-scientific treatment is devised which appeals temporarily to those who think they are informed. In the summer, there is the subject of malaria and typhoid fever. It should be an easy matter to prove to the intelligent classes that the eradication of the mosquito will do away with malaria, not to mention the more remote yellow fever, and that proper vaccination will eliminate typhoid fever. There has not been so much quackery in connection with these diseases, but the futility of depending upon prayer at so much per, and "adjustments," in the matter either of prevention or cure, can be easily shown. If any considerable proportion of the public can be made to understand the simplicity of prophylactic medicine and the dangers of quackery, the days of the ignorant and vicious quack will be numbered, and the public will refuse to be sick. If, perchance, the educated physician should find himself without the practice his predecessors have had, which is not likely to be the case for some time to come, his opportunities will lie in other directions and his talent and technique will not be an economic or personal loss. It is only the useless thing, the parasite, the excrescence, the barnacle, that is discarded in the economic cycle, and even these are prone to return, in one form or another.

It will be admitted, readily, that the work we propose to do is really the business of the State Board of Health and of those welfare organizations which devote their attention to health matters. The Board of Health is limited by lack of funds, and perhaps by politics, and the other agencies mentioned are doing the best they can, and they must avoid public discussions of controversial subjects because of their dependence on the public for financial support. These facts relinquish to the medical profession a distinct sector in the battle against disease and death. We must occupy that sector and carry on the fight. We feel that we can depend upon the co-operation of the State Board of Health and health officers generally on the one side and welfare organizations on the other, when we begin to show what out shock troops can do.

The opponents of scientific medicine have usually succeeded in bringing upon the medical profession a certain amount of discredit because of alleged self-interests, whenever an effort is made by the medical profession to promote and protect the health of the public, whether by instruction as to sanitary procedures or support of beneficial medical and health legislation. Prejudice is usually overcome in the long run, but at considerable cost. The great bulk of the public is with the medical profession, but neither the medical profession, its opponents nor the said public, is conscious of that fact. It is felt that the straight-thinking public will rally to the standards of scientific medicine if the battle cry is raised and the necessity for such action clearly presented. This it is proposed to do, through the medium of lay organizations in each county, which the Council on Legislation and Public Instruction has planned and the organization of which the Board of Councilors will promote. The details of the organization will be announced in due time, and in the meanwhile efforts in this direction should be discontinued. It will be realized that it would be disagreeable and the effort would for that reason fail, should we proceed simply to the organization of a debating society, before which

might come the several bizarre theories of prevention and cure of disease which now have to do with the health and welfare of the public. What is required in each community is a group of hard-headed, sensible people, who are not fanatical about any subject, and who are accustomed to recognizing facts when they meet them in the road and who know what to do with them on such occasions. These will be forthcoming, and they will play a prominent part in bringing the public to its senses on perhaps the most important subject that confronts it in this day of general unrest and uncertainty—its health.

Not to extend our discussion unduly, we intend to do just what *The Rising Star X-Ray* says we could and should do. We quote:

"If doctors would keep the people informed on preventive measures there would not be so much unnecessary sickness. Our people are gradually learning from patent medicine advertisements and from breakfast food booklets ways of preventing many common ailments, but people would take more heed if a home physician gave out the same information. Sanitation and its relation to disease should also be discussed along with preventive measures. Why not the medical society in each county have a publicity department and furnish the newspapers articles written by physicians of the county? Our people will read such articles when written by physicians that they know."

The Matter of Enforcing the Medical Practice Act seems not to concern our enforcement officers a great deal. There are those who accuse these same officers of indifference in the enforcement of liquor laws, to mention one of a group, and yet the police are busily engaged, if newspaper accounts may be credited, in that very enterprise. What the critics mean to say is, that they are not enforcing these laws satisfactorily. That is another matter. We would be less inclined to be critical ourselves if the Medical Practice Act received even a portion of the attention given the large number of other laws of equal and some of them less, importance. There is a reason for the apparent indifference of our law enforcement officers, of course. In the Medical Practice Act questions are involved that are highly controversial, and it appears on the surface that there are involved certain fine points in constitutional law. The acts of those coming within the purview of this law are justified under certain circumstances, and it seems to be too much to ask of the average officer of the law that he investigate all who are practicing medicine and determine who are authorized to do so. It is not as if it were a fight, or a crap game or the possession and sale of liquor, none of which can be justified under any stretch of the law. The chiropractor who so blatantly advertises himself as able to cure any and all diseases and ailments, may after all be a renegade doctor, who has been authorized to practice medicine. If so, his offense is purely one of ethics and not of law. We are not seeking to justify the peace officer in his indifference to the Medical Practice Act, but we are told that even the devil is entitled to his due. As a matter of fact, and lest we be misunderstood, it is our observation that officers of the law are always ready and willing to enforce the Medical Practice Act when it is established to their reasonable satisfaction that it is being violated.

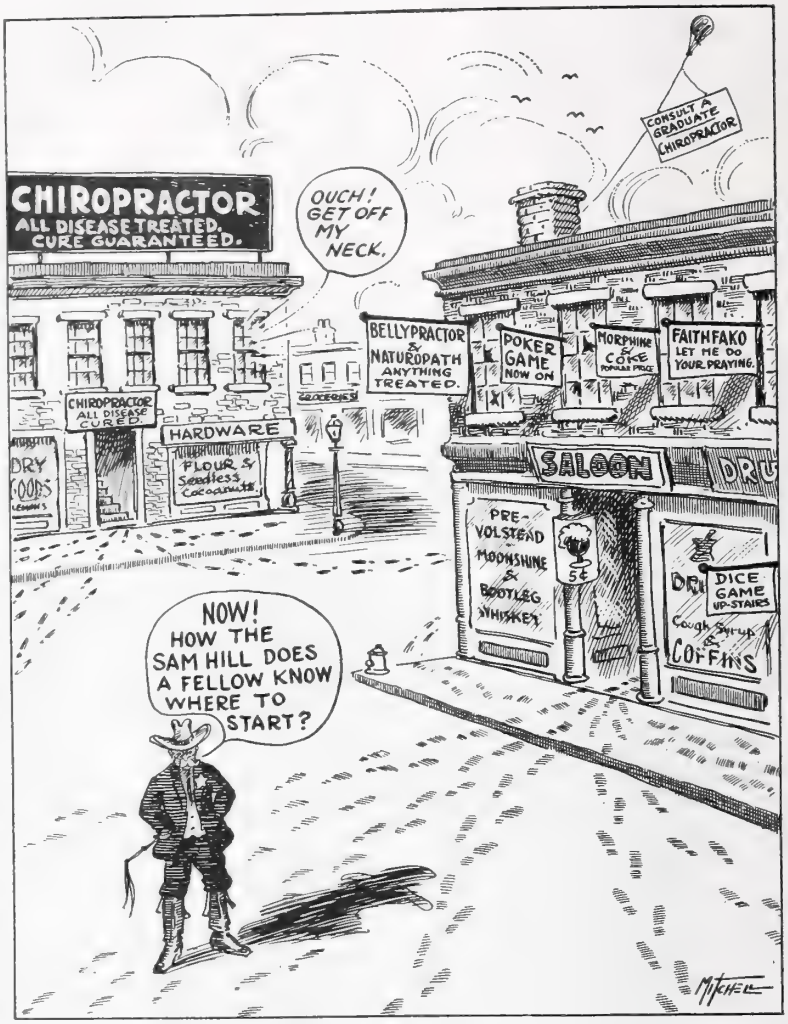
Almost daily we are asked by doctors and laymen alike, what the medical profession is going to do about the enforcement of the Medical Practice Act. It is pointed out to us that chiropractors and others are flaunting this law and bragging that they will not qualify thereunder. The suspicion is being created that they have something up their sleeve, and that the medical profession dare not make a move against them. This opinion is not confined to those who would like to see the Medical Practice Act enforced. There are, evidently, those among the offenders against the law who believe that the medical profession (always the medical profession), is afraid to force the issue, in view of the fact that it has taken no definite part and has not urged prosecution. Just recently we received a letter postmarked San Antonio and addressed to "Dr. Holman Taylor (Pill Peddlar), Secy. State Medical And Quack Assn." This envelope contained a copy of "*Universal Health,* a journal published to spread the Truth and Worth of Modern Chiropractic," which contained a boost for chiropractic and a knock for vaccination, as the principal

items. On the front page is a photograph taken from "Criticism of the Practice of Medicine," by R. E. McNamara, B. Sc., F. T. D., M. D., which is alleged to show the viciousness of vaccination. In passing, we will admit that it is a horrible example—of something, probably chiropractic neglect of cancer. On the face of this enclosure is written, "You Dammded M. D.'s can go to H—— Arrest us if you can." We are not certain whether this communication would be a matter of interest to postal authorities, but it calls our attention most forcibly to a phase of the situation we had not before thought of, namely, that there are chiropractors, for instance, who evidently believe that the Medical Practice Act will not be enforced.

The Council on Legislation and Public Instruction has had the problem of the enforcement of this law under consideration for some time, seeking to determine just what the duties and obligations of the medical profession are in this regard. A conclusion has finally been reached, and it is promulgated here for the information of all concerned. The whole story is told in a simple resolution, which we quote:

"The Council on Legislation and Public Instruction of the State Medical Association, representing the great majority of the legal practitioners of medicine in the State, congratulates the public upon the protection which it is soon to receive from the Medical Practice Act, and calls the attention of the public to the fact that the enforcement of this law is the prime responsibility of the law enforcement officials of the State, and only secondarily the responsibility of the medical profession as such. However, because of the intimate knowledge the medical profession is in possession of, as to the harm likely to be done by the class of practitioners usually seeking to practice medicine without the sanction of the law, the Council desires to place the reputable physicians of Texas at the disposal of the courts and the officers of the law in the enforcement of this act."

It is difficult to imagine a more conservative, dignified pronouncement than this. It is clear enough to satisfy all who care to know our position in the premises. It establishes the fact that we do not care to and will not, assume the role of either persecutor or prosecutor, and yet it places our knowledge and judgment at the disposal of those who bear the responsibility of enforcing this law. It should be called to the attention of every legal enforcement officer in the State, officially and definitely.



WHO VIOLATES THE LAW SHALL BE PUNISHED

Under the title, "What Will the Chiropractor Do Now?" we discussed certain phases of this problem, in the May, 1923, number of the JOURNAL. Again in July, under the title, "Shall the Medical Practice Act Be Enforced?" we discussed the subject from a somewhat different angle. These two items should be considered in connection with the present discussion, and the pronouncement of the Council on Legislation and Public Instruction, just quoted. In addition to this, the following comment, by "C. M. R." in the *Dallas Medical Journal* for August, 1923, will be of interest:

"When the campaign to forcefully amend the Med-

ical Practice Act was on, the cult, known as chiropractic appeared in Austin in the person of Ex-State Senator Quintus C. Watson, of Houston, as a paid lobbyist, and by representatives of its own practitioners to protest the passage of the amended bill.

"It was publicly stated on the floor of the Senate by a Professor (?) and Dean of a State College of the cult that should the bill become a law 'he and possibly five hundred other chiropractors would have to close shop or leave the State.'

"The Legislature in the exercise of its plain duty to protect the public from incompetent practitioners and the State from complicity in crime, prescribed that all those who would diagnose and treat disease by any method whatsoever should meet the reasonable requirements of passing a uniform examination and a penalty which when applied will effectively prohibit those who fail to do so, and yet it appears that quite a few chronic violators of the law have neither closed their shop nor left the State.

"As was replied at the time, it was our opinion that should confessed criminals do both the State would not suffer, and all such should certainly do one or the other. This enforcement of the Medical Practice Act is the responsibility of the constituted legal authorities and we have no doubt that a sworn duty will be performed.

"The medical profession stands ready to render all needed assistance of which it is capable."

Answering the question, "Shall violators of the Medical Practice Act Be Prosecuted?" we unhesitatingly say, Yes! We would go further and say, "Do it now." At the same time we would advise, because of the disposition of the average juror to be lenient in such matters, concerning the fundamentals of which he is not informed, that cases for prosecution be carefully selected, choosing those in which the evidence will be impressive. It will be borne in mind, in this connection, that the success or failure of this or any other method of practice has no place in a trial of this sort. All who would engage in the practice of medicine, and the term is by law rather broadly defined, must be authorized to do so by the State of Texas, under clearly prescribed regulations. There are just two questions before the court, namely, did the accused do the things prohibited by the law under the conditions set out in the law, and did the accused have the right under the law, and in accordance with its provisions, to do them? We are speaking now to the medical profession; it is up to the medical profession to speak to legal enforcement authorities. And for fear that our advice be misunderstood, let us again call attention to the statement of the Council on Legislation and Public Instruction, quoted above. Incidentally, we speak for ourselves and not for the Council. We have been slow to give this advice, thinking that the publicity campaign in contemplation would make the labor of the courts less difficult. It is this attitude that has been misunderstood.

Finally, it might be well to again call attention to the fact that the courts can no longer plead the uselessness of prosecutions under the Medical Practice Act. Formerly it was rather an uphill pull, mainly because of the light penalties prescribed for the violation of the law, but that condition does not now exist. Formerly the violator of this law paid his fine and suffered the light penalty, charging the cost to overhead and making his patrons pay the difference. Indeed, frequently it was a good investment in the matter of publicity. That is true now only in so far as the first prosecution is concerned. After that, the penalty of violating the injunction of the court is added, which is another matter entirely. Few of this ilk will voluntarily face a penitentiary sentence, and cheerfully assume that as a part of the cost of doing business. For that reason the courts may hope to be successful in putting a stop to the violation of this law.

Advance Notice from the Cancer Committee.—Dr. I. L. McGlasson (City National Bank Building, San Antonio), announces that the plans of the cancer committee, of which he is chairman, have been perfected and will be shortly communicated to county societies. They will also be published in full in the next number of the JOURNAL, which will be devoted to cancer and related subjects. In the meantime, it is hoped that county societies will immediately interest themselves and plan parparticularly for "Cancer Month," which this year is from October 15 to November 15. It is hoped that the plans will contemplate their indefinite continuance. What is desired at this time is that each society shall select a competent, enthusiastic and willing local cancer committee chairman, with whom the committee can make arrangements for carrying on this most important work. It is intended that societies shall hold one or more meetings during Cancer Month, devoted entirely to the subject of cancer, and that cancer clinics will likewise be promoted. Lay publicity should be secured through the churches, clubs and newspapers, primarily, such additional agencies as will get results being likewise employed. Plans in intimate detail will be outlined by the cancer committee, upon application.

Roundtable Study Clubs.—Sometime ago we received a copy of the report of the Roundtable Study Club of Physiology and Diagnosis, of the Bexar County Medical Society, and we desire, now that the season of activity in county medical societies is due to begin, to commend this plan to the earnest consid-

eration of those of our societies in a position to successfully put it in operation. There are two other such clubs operating under the patronage of the Bexar County Medical Society, one on Clinical Pathology, and the other on Eye, Ear, Nose and Throat.

The first of these clubs, that devoted to the study of physiology and diagnosis, was organized by Dr. Malone Duggan, in 1921. It has since that time held regular meetings on alternate Mondays, from 12:00 o'clock to 2:00 o'clock, at one of the hotels. The programs, arranged by a committee consisting of Drs. Duggan, Stout, Nesbit and Hanson, have covered in an intimate way a review of the literature on the vegetative nervous system, the cardio-vascular system, the respiratory system and, partly, the digestive system. The discussions have been submitted in writing, after having been carefully prepared from the available literature, much of which has been secured from the Bexar County Medical Library. There are no discussions in these meetings, in the ordinary sense. Members are expected to ask questions, which the authors of papers are expected to answer.

It is said by those who have observed the workings of this system of study, that it in no wise conflicts with the work of the county society. The clubs, in effect, are sections of the county society, made up of those only who desire to enter into a close study of the line of subjects covered. The system has the advantage that programs do not have to be arranged to cater to those who do not care to be bothered. There will be no one at the meeting who is anxious to get away and who is not interested. In the original club there were 17 charter members, 15 of whom are still members and regular attendants on its meetings. The attendance has averaged 21. The work of the club is outlined for six months in advance, which gives the members an opportunity to engage in consistent study of the subjects covered.

The study club on Clinical Pathology has been functioning under the direction of Dr. B. F. Stout as chairman and Dr. J. W. Nixon, secretary. Dr. J. S. Steele is chairman and Dr. F. W. Sorrell, secretary, of the Study Club on Eye, Ear, Nose and Throat.

There may have been changes in the official personnel of these organizations, but those mentioned seem to have been given the credit for this successful effort, and they are mentioned specifically for that reason. It is probable that this system has been approximated from time to time by other societies, and the plan may be in successful operation in some of them even now. Whether or not this be true, we feel that the idea is worthy of favorable consideration.

El Paso Solves the Vaccination Question.—A full and complete, and certainly very interesting report of a recent vaccination-antivaccination fight in El Paso, is before us. We feel that the situation is of sufficient consequence to warrant editorial notice. We will present the facts in the case, briefly, and quote a portion of the report. A knowledge of the experience may be of value to other communities in the State, now or hereafter.

It seems that under the previous city administration a very comprehensive and complete health ordinance was prepared by experts, under the leadership of Major Tarbett, of the U. S. Public Health Service, who had been loaned the city for a campaign against the mosquito. These ordinances included the provision that all children entering the public or parochial schools of the city should be vaccinated against smallpox. The antis promptly rallied to the attack, and it appeared that the vaccination requirement would be eliminated from the health ordinances entirely. Fortunately, the ordinance never passed its first reading, and the recent city election caught it on the table.

The new administration, headed by Ex-Senator Richard Dudley as mayor, inherited the situation in this shape. Senator Dudley, it will be recalled, voted for the christian science exemption amendment to our Medical Practice Act, nothwithstanding he was a friend to the measure as a whole and believed in regulating the practice of medicine. We mention this in the beginning, to establish the fact that Senator Dudley, to say the least of it, is not personally prejudiced in favor of the medical profession. By the same token, neither is he prejudiced against the medical profession. He is a ruggedly honest man and throughout a conservative thinker.

Upon his induction into office, Mayor Dudley received the protest of the christian science-chiropractic-neopathic opposition to the vaccination feature of the proposed ordinance. He very promptly notified all concerned that a hearing would be given on the subject two weeks from that date. Then the fireworks began. A nationally circulating christian science publication supplied the committee, through one of the local practitioners of christian science medicine, with the usual line of garbled, distorted and twisted data relating to vaccination, which was passed over to the city council, and numerous individuals who claimed to have had unfortunate experiences with vaccination, some of them presumed to be physicians, ap-

pealed to the various members of the council to vote against the measure. Labor unions had been convinced, through channels, always, it seems, open to harborers of peculiar beliefs, that all and sundry, and not merely the children who entered the public schools, would be forthwith and immediately vaccinated, and they lined up against the ordinance, also. The number of children, according to some of the protestants, who had been permanently injured by vaccination, was astonishingly large, and the harmful effects of the practice was illustrated in the usual misleading and untruthful manner. All of which the city council cheerfully endured.

The El Paso County Medical Society was represented by a committee, headed by Dr. Hugh Crouse. This committee arranged for the presentation of the safe and sane side of the problem, and planned to have the Army officials located at El Paso, both of the line and the Medical Corps, take a leading part in the defense of the ordinance. However, the so-called "Liberty League of America," it is alleged, succeeded through representations not known to the committee, in securing an order from the Secretary of War forbidding the commanding officer of the post and the commanding officer of the William Beaumont Hospital, or any officers or men, from leaving the military reservations for the purpose of appearing before the city council in the hearings. It transpired, however, that there was no order against the city council going to the post, or against the officers and men of the military establishment appearing before the city council, should the city council care to visit the post. Consequently Mahomet went to the mountain. We quote from the report submitted by the committee, as follows:

"On August 22, the Honorable Mayor, the Council, the City Attorney, the City Health Officer, the Mayor's Secretary and the chairman of the medical committee, visited William Beaumont Hospital, and were entertained by the Commanding Officer of the Military Reservation, Major General Howze; the Commanding Medical Officer of the William Beaumont General Hospital, Colonel Shockley, and a large group of medical officers and veterinarians. This group represented every phase of medicine.

"The meeting was held in the library of the hospital. In order that the question might be forcibly, cleanly, clearly and concisely impressed upon the Mayor and Council, it was suggested that the matter be handled like a court, the Mayor to be the judge, the councilmen to be the jury, and the question of vaccination to be put on trial and testimony taken. This was consented to, so the method of defense was, with the gracious consent of the Commanding Officer, Major General Howze and the Commander of William Beaumont Hospital, Colonel Shockley, carried out by the chairman of the medical committee. A series of carefully selected questions and cross-questions was used, covering, thanks to the brilliant replies, every phase of the question of vaccination.

"On the subsequent day, the 23rd, the public meeting that had been advertised was held in the Council Chamber by the Mayor and the Council. The christian science representative and his attorneys and sympathizers, presented their side of the question first. One hour was granted each side. The witnesses for the defense were, Dr. Hugh White, formerly City and County Health Officer; Dr. John Brown, present City Health Officer; Dr. Meyer I. Leff, formerly Medical Director of the American Joint Distribution Committee in Eastern Europe; Dr. T. J. McCamant, present County Health Officer; Drs. J. A. Rawlings, Harry Leigh and B. Craige, specialists in children's diseases; Drs. W. W. Waite and John Turner, pathologists; Dr. W. R. Jamieson, genito-urinary; Dr. Proper, City Veterinarian; Mr. Conner, in charge of the city pesthouse for the past twelve years; County Judge McClintock; Drs. R. B. Homan and J. W. Laws, specialists in tuberculosis, and Major French, sanitary inspector for the district. These witnesses covered the subject of vaccination from every angle.

"The cults held that the liberty granted by a democratic form of government guaranteed to every individual the right to accept or reject anything that the individual might decide upon, either for himself or his minor child. They particularly stressed "Bovine Syphilis." They stated that vaccination would transmit this dread disorder; that tuberculosis was frequently transmitted by means of vaccination; that scrofula, erysipelas and strange and debilitating complaints were transmitted and produced by vaccination, and that limbs were sacrificed and lives were taken frequently by this dreadful procedure.

Garbled excerpts had been compiled by a national christian scientist publication in behalf of this fight, from various sources. Editorials in the *London Lancet*, and articles in *The Journal of the A. M. A.*, were culled. Notable among there was the Kitasato article in the March 25, 1911, number of *The Journal of the A. M. A.* This was the main article that was used, and it was garbled. They stated there had never been a law passed by Congress ordering vaccination. They also stated that the reason why physicians were insisting on the ordinance being passed, was commercial and financial, and that no humane feeling or sentiment was involved. As a proof that compulsory vaccination was a failure, they stated that Fort Bliss had suffered from two smallpox epidemics in the last three years.

"Evidence was brought out carefully to refute each of these points. It was shown by the testimony of county and city health officers, past and present, that in every epidemic in the county and city, the county and city health officials had vaccinated practically every individual free of charge. It was brought out that individuals exposed to smallpox were granted the privilege of being vaccinated by private physicians, if they so desired. It was shown that approximately 1,900 had been vaccinated during the last epidemic in El Paso, of which only 185 had selected private physicians to do the work. The remainder had been vaccinated free by the county and city. With 120 physicians in the city, it was shown that 185 vaccinations represented a small amount of money to be scattered among so many.

"It was shown through the public health representative, Dr. John Tappan, that all emigrants entering the United States had to show positively that they had been successfully vaccinated, or submit to vaccination, before they could be granted the privilege of entering this country; that conscientious objections and christian science belief, counted for naught in securing entrance into this country; that this vaccination order was from the Surgeon-General of the U. S. Public Health Service, a department of the government, and that an act of Congress gave

him authority to so order. This testimony refuted the statements of the opposition that Congress had never passed an act compelling vaccination.

"Dr. Leff stated that during his anti-typhus work in eastern Europe, after the war, he saw very few cases of smallpox, despite the fact that in those countries smallpox was endemic before the war. The change was due to general compulsory vaccination under the Germans during their occupation of the country.

"The testimony of a specialist was given on every point. The laboratory men reported never having seen a positive Wassermann, or a specimen of tuberculosis, or tissue that gave signs of such, as a direct or an indirect result of vaccination. The children's specialists stated that they had never seen a child whose health had been wrecked, or even affected for any length of time, by vaccination. The tuberculosis specialists denied ever having seen a case of tuberculosis produced by vaccination. The veterinarian stated positively that there was not such a thing as "bovine syphilis," and that cattle were not attacked by syphilis. Step by step, every feature of the attack was neutralized and destroyed. The conclusion of evidence was summarized by the chairman of the medical committee.

"Each side was granted ten minutes for rebuttal. The cults spent their time in personal recrimination. The chairman of the medical committee used Major French, military sanitary inspector of the district, as a witness to refute the cult's statements that two epidemics of smallpox had occurred at Fort Bliss, despite military vaccinations. Major French simply stated that the two 'epidemics' were two cases, only a year apart—one patient, a raw recruit, two days after entering the army, who had not been vaccinated, the other, an army officer's wife, a christian scientist, who had not been, and refused to be, vaccinated. She nearly died from confluent smallpox.

"The health ordinance came up for final reading, Thursday, the 30th. One councilman was absent. The other three voted unanimously in favor of the ordinance.

"Sic Semper Cultibus!"

We congratulate the medical profession and the good people of the city of El Paso, on the outcome of this contest. We beg to extend to the city council our appreciation of its fairness—to the people who look to it for protection.

The Southern Medical Association Will Meet in Washington, D. C., November 12-15, 1923. This is probably not news to fully a third of our readers, but the announcement will serve as a reminder. It is not necessary that we discuss the Southern Medical Association with those who know of it, but there are those who either are not acquainted with this most excellent organization or do not appreciate its usefulness and the satisfying character of its meeting. Perhaps, therefore, a brief reference to the meeting will be appropriate.

The scientific work of the Southern Medical Association is accomplished through the medium of twenty sections and conjoint meetings. This appears to be rather an intricate division, but it will be found that the meetings are so arranged that related subjects may be followed throughout. In addition to the scientific sections proper, the following organizations will meet for scientific purposes: Southern Gastro-Enterological Association; Southern States Association of Railway Surgeons; National Malaria Committee (Conference on Malaria); Conference on Medical Education; Conference of Presidents and Secretaries of State Medical Associations and State Health Officers; Section of Medical Directors of Southern Life Insurance Companies; Conference of Southern State Statisticians; Southern Association of Anesthetists, and Women Physicians of the Southern Medical Association.

The scientific exhibits are usually of interest and quite entertaining. They will certainly be no less so this year. There is being installed in the Arts and Science Building of the National Museum, a permanent health exhibit, which will be of much interest to physicians. The Army Medical Museum and the Library of the Surgeon General will be open to inspection and use.

Arrangements have been made for clinics in the hospitals, in connection with the work of certain of the scientific sections. The University of Virginia has already arranged for clinics to be held at Charlottsville, November 16-17, immediately following the adjournment of the Association. A clinical program will be conducted at Johns Hopkins and the University of Maryland, on these same days.

The entertainment features will be unusual this year. In addition to the reception of the president, which will enjoy the distinction of music by a portion of the famous Marine Band, President and Mrs. Coolidge will receive members of the Association at noon on the 15th. This will be a notable event. The time of the President of the United States is so engaged by affairs of State, that his opportunity for such functions as this must be limited. A reception and tea will be tendered the ladies in attendance on the meeting at the Washington Club, on the 15th, with Mrs. Woodrow Wilson as the guest of honor. There will be other entertaining features, but these are sufficient for the purposes of this announcement.

It is said that there will be a real golf tournament, held on the championship course of the Columbia Country Club. This simple announcement will be quite sufficient, we are sure. Golf bugs are more or less of the same disposition as other bugs, and all that is necessary is to light a torch and they will come. The torch seems to be burning brightly.

There are ample hotel facilities in Washington, of every kind and description, with

moderate, and no doubt immoderate, rates. On the whole, the very best service can be had at a reasonable cost, comparatively speaking. The New Willard is the general headquarters, and this and the Washington, Raleigh, Shoreham, New Ebbitt and Burlington hotels, will house the several section meetings. *The Southern Medical Journal* for October, will carry full announcement of this and other features of the meeting.

Special round-trip rates have been granted by the railroads on the certificate plan. Each member of the Association will receive a certificate, the presentation of which to any railway ticket office, will enable him to purchase the tickets required for himself and family or dependents, at the special reduced rates announced. Physicians who are members of their State Association but not of the Southern Medical Association, and who desire to join the latter, may secure these certificates by writing to the Secretary, Mr. C. P. Loranz, Empire Building, Birmingham, Alabama. Membership can be readily perfected at the meeting. A state Association card will facilitate matters, but if an applicant's name is on the membership list of his State Association, he will find it a simple matter to become a member of the Southern Medical Association. That membership in this organization is worth while, we do not hesitate to state rather emphatically. As we have said before, quite aside from the meetings the *Southern Medical Journal* is worth the membership fee. The interest Texas doctors take in the Southern Medical Association, and the interest the Southern Medical Association takes in the Texas profession, may be judged by the fact that there is a Texas physician among the officers of fully half of the scientific sections, and we do not need to remind ourselves that one of our distinguished physicians has served as president of that organization. We might even call attention to the fact that one of our number has been vice-president.

Perhaps it will be worth while to call attention to the announced purposes of the organization, upon which no comment need be made. We quote:

"The purpose of this Association shall be to develop and foster scientific medicine and medical fraternalism. It shall have no direct connection with or control over any other society or organization, nor shall it at any time be controlled by any other society or organization. All meetings of the Association shall be for the sole purpose of reading and discussing papers pertaining to the science of medicine, to public health and to medical education.

"The Association shall not at any time take active part in any economic, political or sectarian questions, or concerted movements for securing legislative enactments."

Our readers will remember that it is our custom to boost the meetings of the Southern Medical Association. In view of that fact, we are sure we will not be charged with violating our advertising rules, when we point with pride to the half page ad in this number of the JOURNAL, for which we will receive the advertising fee in full. Our purpose in doing this is as much to point to the value of medical journal advertising of the right sort, as it is to express appreciation of this patronage. We betray no secret when we say that we offered to donate this space. We were thanked very kindly for our offer and told politely that the Southern Medical Association, being in the advertising business, knew the value of advertising and desired to make an investment. We might add that other medical organizations are doing the same thing, for instance (and we are not expected to say this either), the Kansas City Clinical Society paid us quite an extensive advertising bill for publicity in connection with the clinics promoted by that organization, October 8-13. This is not the moral of our story. It is merely a bit of information that is worth while.

Texas Medical College Alumni will hold a reunion in Washington, D. C., during the meeting of the Southern Medical Association, November 12-15, according to announcement just received. Dr. Jas. Greenwood of Houston, and Dr. L. O. Godley of Fort Worth, presidents respectively of the alumni organizations of the medical departments of Texas and Baylor Universities, have arranged for a joint reunion of the alumni of all Texas medical colleges represented in the two organizations. Those who are interested should write to either Dr. Greenwood or Dr. Godley, notifying them of their intentions in regard to attending the Washington meeting of the Southern Medical Association. Dr. Tom A. Williams, 1746 K Street, Washington, D. C., is chairman of the Alumni Dinners Committee. The dinners will be held on the evening of the 14th.

We desire to commend right heartily the decision of the two Texas alumni associations to hold a joint reunion on this occasion. Such joint meetings might not be practicable or desirable during the time of the meetings of our State Association, for the reason that business is attended to, and doubtless there are matters discussed at these meetings which might prove embarrassing were nonmembers present in any considerable numbers. None of these reasons will obtain in the case of the reunions at the Southern Medical Association meetings. There is most certainly no antagonistic feeling between

Baylor and the University of Texas. At least we have not heard of any. This being true, there must be many matters of common interest, certainly when away from home. We trust the contemplated joint dinner will be arranged for, and that it will be well attended.

A School of Instruction for Sanitarians will be conducted by the State Board of Health, November 14-17, in Austin. This movement is intended primarily to meet the needs of municipal sanitary and food inspectors, and the mosquito control directors of the State. It is available to all interested in these subjects, who may be in a position to render service to the cause of good health through these particular agencies. This is strictly a home-grown enterprise. It will be none the less instructive because of that fact; indeed, it is anticipated that the lecturers selected will, because of their acquaintance with local situation and their own people, be able to more effectively approach their respective subjects. The following is a partial list of the faculty: Dr. Lee Rice, Galveston; Dr. Albert Woldert, Tyler; Prof. A. C. Chandler; Prof. I. E. Lewis; Prof. A. C. Ellis; Prof. Williams; Prof. Carl Hartman, University of Texas; Mr. A. House, U. S. Biological Survey; Dr. Z. T. Martin, City Health Officer, Austin; Hon. Boog-Scott, Chairman, Live Stock Sanitary Commission; Dr. J. K. Wilhite, Pasteur Institute; Mr. R. E. Tarbett, Sanitary Engineer, U. S. Public Health Service, and Mr. A. L. Burns, U. S. Department of Agriculture.

The following paragraph from the announcement of the State Health Officer, indicates the ground to be covered:

"One day of the school will be devoted to the discussion of sanitary problems such as drinking fountains, swimming pools, dump grounds, garbage collection and disposal, sewer connections and sewage disposal, disinfectants and fumigants, street cleaning, housing, rat control, rabies, etc. Another day will be devoted to discussions of problems confronting inspectors engaged in food protection work. This will include inspection of meats, abattoirs, pasteurization plants, milk examination, scoring of dairies, manufacture of bottled waters and soft drinks, ice, food handlers' certificates, filing of complaints, etc. Another day, the question of mosquito control will be treated from alpha to omega, including the identification of mosquitoes, life cycle, habits, breeding places, diseases conveyed by the insects, methods of control, such as oiling, drainage, use of larvaecides, use of fish, screens and ordinance, as well as sanitary surveys, securing finances, publicity and arousing interest. The fourth day will be confined to the inspection of mosquito breeding areas, equipment used in control, the State hatchery, street cleaning apparatus, sewage disposal plant, swimming pools, chemical closets, model dairying, pasteurization plant, bottling works and food establishments. The visit will also include the eight Bureaus of the State Board of Health."

Congratulating the New Orleans Medical and Surgical Journal.—The August number of the *New Orleans Medical and Surgical Journal* contains the announcement that full responsibility for that publication has been assumed by the Louisiana State Medical Society, and the secretary of the society has taken charge, as general manager. This ancient and honorable medical journal (established in 1844) is entitled to again take its place in the sun. We feel sure the Louisiana State Medical Society will see that it retains that status. Since the society took over this publication sometime ago, it has been a foregone conclusion that the principal point of criticism, its advertising policy would be cared for. The following announcement completes the cycle:

"At the first meeting, this action being confirmed at a subsequent meeting, the American Medical Association was promptly notified that we would adopt the advertising policy under which practically all of the successful medical journals of the country are now operating. In the future no advertisement will be accepted for the pages of the journal that does not meet with the requirements of the Journal of the American Medical Association. Those advertisements now running in the journal will be discontinued as soon as the contracts can be terminated. This insures a journal of the highest type and one which we hope will merit and receive the cordial support of every physician in Louisiana. We further hope that in due time every physician in Louisiana who is qualified will become a member of the State Medical Society."

We congratulate our brethren across the creek.

The Atlantic Medical Journal.—On the ground that it is better late than never, we beg to extend herewith our best wishes and our congratulations, to *The Atlantic Medical Journal,* which unfurled its standard last April. This publication combines the journals of the medical societies of Pennsylvania and Delaware. It could hardly be otherwise than a splendid publication, which we are happy to acknowledge that it is. It was the first of our now large family of State Journals.

We greatly admire the spirit which prompts the Pennsylvania Society to relinquish exclusive control of its publication, and permit the elimination of its name from the masthead. We take it, this decision was made in order that the profession of the neighboring State of Delaware, which was probably not of such numbers that it could maintain a creditable publication except at considerable expense, might be cared for. The thoughtful student of medical journalism will agree with us that combination rather than expansion in this particular field, is to be advised.

ORIGINAL ARTICLES

BRONCHOSCOPY, WHO CAN AND WHO SHOULD DO IT.*

BY

GEO. S. McREYNOLDS, M. D., F. A. C. S.,
TEMPLE, TEXAS.

By bronchoscopy we mean looking at the trachea and bronchi. This can be done by the indirect method, by means of a mirror as far as the larynx and upper trachea, or by the direct method, looking through some of the form of tubes made for that purpose, searching the smaller branches. Direct bronchoscopy is divided into upper and lower bronchoscopy; upper bronchoscopy being through the mouth, larynx and trachea, while lower bronchoscopy is done through a tracheotomy opening, the former being by far the more desirable. This paper will deal principally with the direct method, the indirect being used only as a help to the direct. Very valuable information may be obtained by this method, both as to pathology and the presence of foreign bodies. The same information can be obtained by inspecting the esophagus, which is spoken of as esophagoscopy, and since the process is very much the same, one word, endoscopy, could be used to cover both procedures.

Endoscopy is not only a great aid in diagnosis, but is absolutely essential to operative procedures in these localities. Particularly is this true of foreign bodies that may be lodged in lung or esophagus, and it is more particularly this that I wish to deal with at this time.

Just a bit of history here would not be out of place. It has come about entirely in my day in medicine. Right well do I remember while a student in New Orleans in the late 90's, a man who had inspired a piece of fresh cocoanut into his lung was brought into Charity Hospital, and the surgeons frankly told the class that nothing could be done, and that he was doomed to die, which he did in just a few days, and autopsy was held before class. It was about this time, in fact in 1897, that Gustav Killiam removed a foreign body from the bronchus. Coolidge of New York, reported a similar case in 1899, as did Ingals of Chicago in 1904. Jackson, formerly of Pittsburg, now of Philadelphia, reported a case in 1904. In 1904 and 1905 Jackson perfected his distal light tubes, which was a distinct advance. Thus it will be seen that the process had its origin in the last years of the last century and the first years of this century. Since that time Jackson has been the most prolific writer, having written and published more than sixty articles and three text-books, the last coming out in October, 1922. He has done more, probably, than everybody else in the world, to develop this process. He speaks of crushing peanuts by the quart to learn how much pressure a peanut will stand without crushing, and of working a hundred hours on a single problem before trying it on a human case. He possesses no magic touch, but by unending effort has been able to do things that are truly wonderful. He can not be with us always, and it is up to us to endeavor to profit by his experience and continue where he leaves off. I make this appeal more especially to the younger physicians who have time, energy and ambition to do the things worth while.

While there have been a good many papers published on this subject, they have been largely in special journals, and the profession generally is not conversant with the dangers of these foreign bodies and the possibilities of endoscopy under proper surroundings. It is true that foreign bodies have been tolerated in lung or esophagus without mortality for many years, but such is not the rule. I do not feel that I can assert too strongly that every foreign body in the lung or esophagus is a serious problem, as far as the life of the patient is concerned. Every foreign body left in the lung will cause lung abscess, and possibly death of the patient. Every foreign body lodged in the esophagus will ultimately produce a perforation into the trachea, rupture the aorta or perforate into the mediastinal space, with abscess formation and death. Of course, there are exceptions, but they are so rare as not to be worthy of consideration.

Could we tell in which cases the patient himself is going to be able to expel the foreign body, the expectant plan would be all right. Some mastoids will drain through the ear and recover, some appendiceal abscesses will rupture into the intestines and the patient recover, but who of us would consider such a course of expectant treatment? So with these foreign body cases, the patient should be given the best chance. We should either qualify ourselves to take care of these cases or refer them to those who have done so.

These cases should be handled promptly, but never until all features have been studied. They should all be *x*-rayed and a thorough examination of the chest made, and if possible a duplicate of the foreign body should be secured. In other words, we should know as much as possible about the foreign body and its exact location before any operative work is attempted. It will be

*Read before the Section on Ophthalmology, Otology, Rhinology and Laryngology, State Medical Association of Texas, Fort Worth, May 9, 1923.

found that this precaution will increase the number of successful cases.

Also, these cases should not be handled for several hours after a meal, as the process may induce vomiting, and the patient may wind up with a foreign body in the lung when there was none there to start with, as the larynx is propped open and the natural barriers held back.

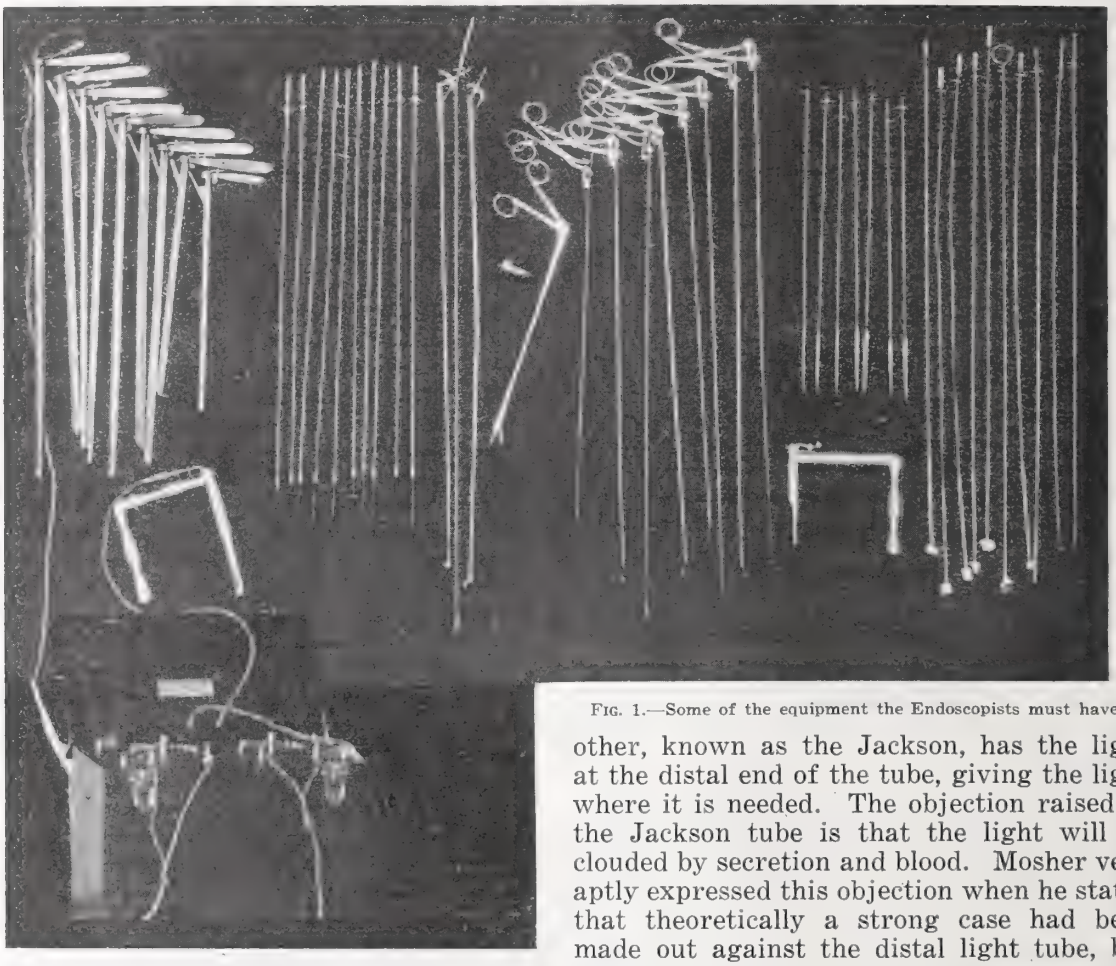


Fig. 1.—Some of the equipment the Endoscopists must have.

If the patient is struggling for air, an immediate tracheotomy had best be done, and the endoscopic work later.

These patients should be kept under close observation for several days after the operation. The impression should not be given patient or friend that the patient can walk into the hospital and turn around and walk right out again; as such is not the case. They should be made to realize that the possession of the foreign body is far more serious than the operation. A little co-operation along this line will be a wonderful lot of help.

Those who have done the most of this work find that in small children no anesthesia, local or general, with the possible exception of small doses of morphine and atropin, is required. In adults, a good dose of morphine and a local anesthetic, and in case of a very large foreign body in the esophagus, a general anesthetic may be used to advantage to relax the esophagus. This accords with my personal experience.

We have two principal forms of bronchoscope. One, known as the Bruening, has the light at the end next to the operator. The other, known as the Jackson, has the light at the distal end of the tube, giving the light where it is needed. The objection raised to the Jackson tube is that the light will be clouded by secretion and blood. Mosher very aptly expressed this objection when he stated that theoretically a strong case had been made out against the distal light tube, but results of practical work refute most of the objection. I have no fuss with anyone who feels that he can do better work with a proximal light, but my belief is that there are many advantages in the distal light tube. Most of us who have talked with patients who have had an eye removed during adult life, remember that they express inability to estimate distance with only one eye. In other words, with two eyes we are making use of the old mathematical problem, wherein if we have one side and two angles we can find the remaining three parts of the triangle. When one eye is gone, there is only a straight line, and we cannot estimate the distance. So in endoscopic work we are using only one eye, but with the distal light tube, with experience

we can tell just how far our tube is from the foreign body by the way the light shines on it; likewise we can tell when our forceps have reached the end of the tube and the time to open the forceps, know how far the foreign body is from the tube and how much to advance the forceps to grasp it. I might state just here that the bronchoscopist grasps a foreign body and does not grab it. He

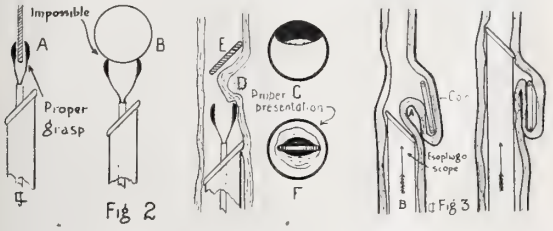


FIG. 2.—The cause of many failures to seize a coin in the oesophagus. The seizure should be flatwise, as at A, not edgewise as at B. No attempt should be made to seize the coin in the position in which it is usually first seen (C) because one jaw of the forceps will strike the cricopharyngeal fold, as shown in cross-section at D, preventing the jaws from advancing far enough toward the coin to grasp it properly. The lip of the oesophagoscopic tube-mouth should be used to obtain a proper presentation, as shown at F. The same principles govern the grasping of all flat objects in the oesophagus or tracheobronchial tree.—From Jackson, in *Annals of Surgery*.

FIG. 3.—How a foreign body is so frequently overridden, unseen by the inexperienced oesophagoscopist. The oesophogoscope advancing in the direction of the dart through the normally collapsed oesophagus, pushes ahead of the tube-mouth a fold (A) that obscures the view of the coin, which becomes buried in the folds alongside the advancing oesophagoscope. This is most likely to occur at the cricopharyngeus, but may occur at a number of other locations.—From Jackson, in *Annals of Surgery*.

searches for a foreign body and does not fish for it.

There is another distinct advantage in the distal-lighted tube in the shape of its distal end. It is just as important that a foreign body should have a proper presentation for its successful delivery as it is that an infant should have proper presentation for its delivery, and the shape of the distal-lighted tube is constructed with this object in view, so that the foreign body may be nosed around until a favorable presentation is secured for safe and easy delivery.

Foreign bodies should be directly in view when attempting delivery, hence flouroscopy should not be depended on, as it will only show metallic substances and gives no information as to soft tissues that the forceps may include in their grasp, thus permitting possibly fatal injury to the patient.

Who can do endoscopy? I say, without hesitancy, every one of us can, provided we possess normal vision, with or without correction, will provide ourselves with adequate equipment, and will put forth the required effort to develop technique.

Who should do endoscopy? I have heard this question answered a number of times, that all of this work should be sent to some one operator, but not infrequently, upon investigation, it develops that the one giving this answer thinks he is the one to whom the work should be referred. I cannot quite agree to this answer. I feel that we should have more and better endoscopists. I do not feel that a man must have a foreign body case every day, every week or every month, in order to keep in practice. He can keep up his technique by practice on rubber tube and dogs. As a matter of fact, I doubt if anyone is going to have enough human cases to keep his hand in. It does not follow that the physician with the largest practice in nose and throat work is the more competent endoscopist. In fact, if a physician is so busy that he has not time for proper development, or too lazy, or would prefer to put in his time on golf or some other recreation, he had best let endoscopy alone.

Neither do I think that anyone should feel embarrassed at inability to do this work, any more than they should if they are not able to do a herniotomy or a cesarian section.

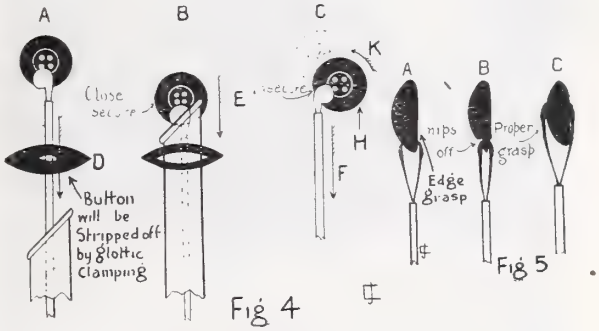


FIG. 4.—Illustrating the necessity of keeping the foreign body close to the tube-mouth during withdrawal, so as to emerge with the tube (B). If allowed to trail, as shown at A, it will be stripped off the forceps by the glottis (D) clamping tightly around the stem of the forceps. This applies to the endoscopic removal of all foreign bodies too large to be brought out through the tube. In oesophageal work the cricopharyngeus will strip off the foreign body in the same way as the glottis does at bronchoscopy. Therefore, D, in the schema above, may be taken to mean either glottic or cricopharyngeal clamping. At G, is shown the fault of the one-sided grasp of any foreign body in endoscopic removal. When traction is made in the direction of the dart, F, the resistance of any tissue encountered (H) by the sidewise projection portion of the button, will cause the button to be rotated in the direction, K, inevitably loosening it from the grasp of the forceps.—From Jackson, in *Annals of Surgery*.

FIG. 5.—Illustrating the right and wrong ways of grasping peanut kernels, and all other friable substances. If the forceps are applied close to the presenting edge (A) a fragment of the edge will be nipped off (B). With proper forceps and a gentle hand the peanut kernel will not be crushed if grasped over the minor axis, as shown at C.

There is far more resemblance between a good mastoid operation and a herniotomy than there is between a mastoid operation and endoscopic work. The training is separate and distinct from all other work, and there is no other place where "every little movement has a meaning all its own" quite so much. A few men may be able to read the literature on this subject and then develop their technique, but they are very few, and even they would make much more

progress if started off from the beginning by someone competent to do so.

To do endoscopy one should possess normal vision, with or without correction; should equip himself with adequate equipment; take instructions from someone thoroughly versed in the subject; practice on the cadaver, so as to familiarize himself with the anatomy to be dealt with; extensively practice on rubber

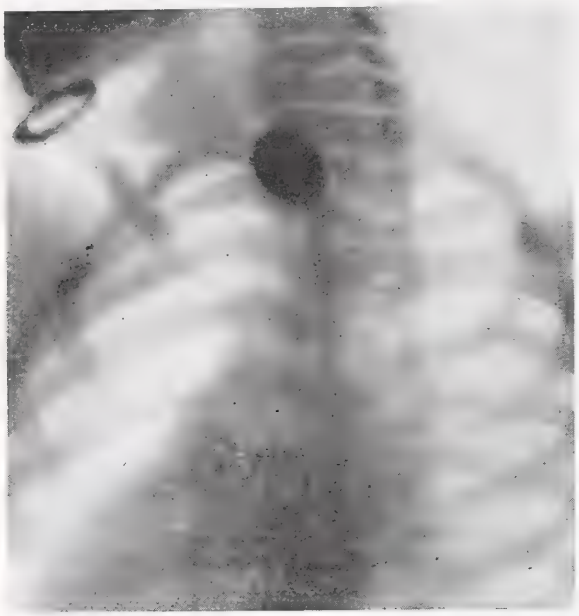


FIG. 6.—Showing a penny in the esophagus of a boy 3½ years old, which was removed by the esophagoscope. The diagnostic value of the plate is considerable, in that the coin is shown to be transverse the body, demonstrating that the coin is in the esophagus. If the coin were shown to be in the anterior-posterior plane of the body, it would indicate that it is in the larynx or trachea.

tubes, so as to make the handling of forceps come as second nature; and last, but not least, practice on dogs. Dogs are plentiful and cheap; human lives should not be so held.

As to whether or not any one of us should do this work, let our conscience be our guide. The doctors of Texas and our God will be judge, jury and executioner, should we attempt to tamper with untempered mortar.

Bacillus Acidophilus Therapy.—A method for the preparation of bacillus acidophilus milk has been published by Rettger and Cheplin (Arch. Int. Med. Vol. 29:357, March, 1922). Microscopically, bacillus acidophilus closely resembles the bacillus bulgaricus, but cultural methods of distinction have been proposed. The therapeutic value of the various lactic acid ferment preparations is discussed in New and Nonofficial Remedies, 1923. While recent publications give evidence in favor of bacillus acidophilus therapy, W. H. Morriss expresses the belief that whatever beneficial results occurred in the cases reported by him were due to some other factor than the actual transformation of the common intestinal bacteria into the acidophilus type of organism.—*Jour. A. M. A*, Aug. 11, 1923.

FOREIGN BODIES IN THE BRONCHI, AND BRONCHOSCOPY IN CHILDREN.*

BY

SIDNEY ISRAEL, M. D.,
HOUSTON, TEXAS.

From the available statistical data regarding foreign bodies in the bronchi, we find that 69 per cent of these foreign bodies occur in children between the age of birth and 12 years, and that the greater number occur before the sixth year. This information suggests the thought that there exists a certain laxity in, or lack of care and watchfulness on the part of those responsible for children, or else ignorance as to the possibilities of small objects used as playthings becoming bronchial foreign bodies, if given the opportunity.

Of 590 cases of foreign bodies collected by Jackson, 87.2 per cent were distinctly attributable to carelessness, and of these, 49 were due to carelessness in the preparation of food, containing bones, wood, glass, enamel, wire, etc. There is still valuable educational work to be done by the visiting welfare worker and social service nurse. The mortality from foreign bodies varies from 1.9 to 13 per cent.

The symptoms of bronchial foreign bodies are varied. It was well said by Prof. Thos. McCrae, that "There is no one description of physical signs which covers all cases." This statement is the result of extensive observation over a prolonged period. The history is important in a case of suspected foreign body, though by no means certain as a guide to diagnosis. As strange as it may seem, there are several cases on record where there was no history of having aspirated a foreign body. In view of this statement, the following signs suggestive of foreign bodies in the bronchi should be mentioned:

(1) Reduced expansion.
(2) Diminished vocal fremitus.
(3) Altered percussion note.
(4) Diminished breath sounds.

There are, however, three outstanding types of obstruction which present rather typical initial physical findings, namely:

(1) Complete bronchial obstruction.
(2) Expiratory obstruction, permitting air to enter during inspiration, because of the alteration in size and shape of the lumen of the bronchi; the dilatation being due to inspiration, a valve-like obstruction on expiration being produced. (Jackson.)
(3) Incomplete bronchial obstruction.

*Read before the Section on Ophthalmology, Otology, Rhinology and Laryngology, State Medical Association of Texas, Fort Worth, May 9, 1923.

The most prominent and frequently met with symptoms are: Dyspnoea, cyanosis, coughing, choking and the asthmatoid wheeze, followed by a period of quiescence, then cough and advanced physical findings, including blood-stained sputum, elevation of temperature, and prostration, with lung changes and pathology. The physical findings in the chest, as a rule, occur distally to the foreign body, and vary to such an extent, even in the same case, due to the character and degree of obstruction, or change of position of the foreign body, that one has to be ever on guard lest a foreign body be overlooked.

While it is true that no one description of the physical signs in these cases can be held inviolate, from a diagnostic viewpoint, there is the matter of differential diagnosis from pneumonia, or in the case of a foreign body of long standing, from tuberculosis, especially in the presence of negative *x*-ray findings and perhaps absence of a definite history. Quite frequently the diagnosis of pneumonia or tuberculosis has been made in these cases, especially when fever and pain are present, or when physical findings are present either on both sides, or on the unaffected side, as in cases of arachidic bronchitis.

From the investigation of McCrae, the one constant physical sign in all cases seen, was diminished expansion on the affected side. The rales heard in cases of metallic foreign bodies are of the fine tissue paper variety, and of a different type from what one is usually accustomed to hear. The asthmatoid wheeze, while not always discernible, is suggestive of a foreign body when present. The fact, too, that most of the physical findings are in the base of the lung, due to the frequency of foreign bodies in this locality, is another suggestive point not to be overlooked.

Indications for bronchoscopy for suspected foreign bodies are well summarized by Jackson, as follows:

(1) The appearance of a suspicious shadow in the radiograph, in the line of a bronchus.

(2) In any case in which the lung symptoms followed a clear history of the patient having choked on a foreign body.

(3) In any case showing signs of obstruction in the trachea or of a bronchus.

(4) In suspected bronchiectasis.

(5) Symptoms of pulmonary tuberculosis with sputum constantly negative for tubercle bacilli, if the physical signs are at the base, particularly the right base.

(6) In all cases of doubt, bronchoscopy should be employed, as there is no contra-indication for bronchoscopic search for foreign bodies.

The most frequent location of foreign bodies is in the right bronchus, 75 per cent of the cases occurring here. This is due to the increased diameter, the smaller angle of deviation from the axis of the trachea, the fact that the carina in the majority of cases is to the left of the median line of the trachea, the action of the trachealis muscle and, lastly, the increased quantity of air entering the right bronchus during inspiration.

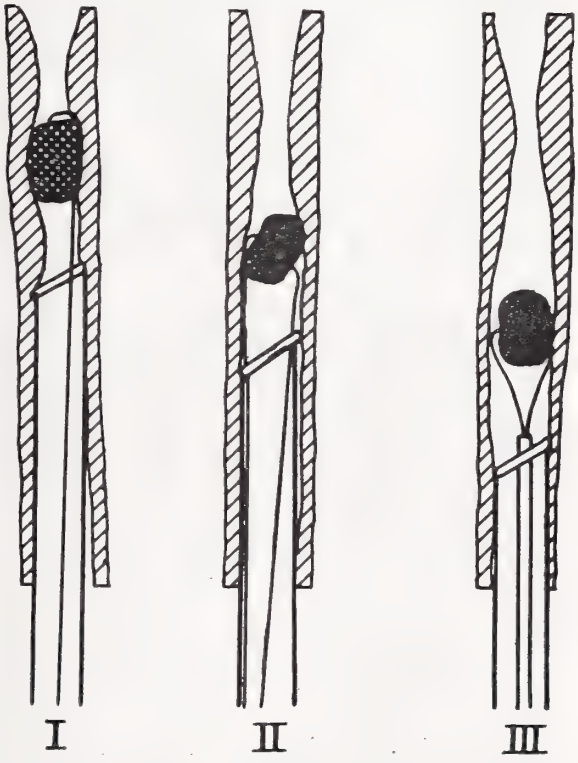


FIG. 1.—Showing the mechanical problem of glass bead removal from the bronchus. (I) Impaction of bead in swollen mucous membrane of the bronchus. A steel hook bent at right angle is passed along the side of the foreign body, and behind, so that the hook is able to withdraw the foreign body forward and outside of the area of swelling and impaction, so as to allow forcep space. (II) By means of two hooks the foreign body is turned so as to present its long axis, preparatory to removal. (III) Grasping the forceps with one jaw in each of the depressions in the center of the bead, the bead, forceps and tube, are removed together.

Correct foreign body localization is important, and one should not be satisfied with one view from one direction; all roentgenograms should be viewed inverted, or upside down, so as to simulate the position and view of the foreign body when approached from above downwards through the mouth. The *x*-ray is a valuable aid in the localization of these foreign bodies, though 10 to 15 per cent of cases are non-recognizable by this means. It is my custom to employ the positive *x*-ray films of Jackson of the injected tracheobronchial tree to aid in this localization.

These films are made in twelve different sizes and are suitable to any case. One of the positive films, the size corresponding to the roentgenograms of the patient, is accurately placed over the negative, and the localization effected in this manner.

In no class of cases is the importance of team work more valuable than in endoscopy. The predomination of these cases in early childhood makes it imperative that the operation be accomplished in the shortest space of time with the minimum of shock and jeopardy to life. In appreciation of this requirement I do not employ general anesthesia in any of my endoscopic work on children, nor do I employ local anesthesia in young children. Contrary to the idea prevailing in some quarters, there is no pain or difficulty in this examination, provided the above requisites are observed. Morphine and atropin are resorted to occasionally. In children, general anesthesia in this class of work adds to the risk, and tends to complicate the procedure.

Experience has taught me that each foreign body case is a separate and distinct mechanical problem, ofttimes requiring the greatest amount of ingenuity, and calling for the utmost in skill and the best of technic. Practice on the manikin or dog is valuable and ofttimes live-saving, and I never attempt a foreign body extraction until after the problem to be solved has, as accurately as possible, been reproduced outside the body, either through rubber tubing or on the manikin.

The following two cases represent two distinctly different types, both interesting and instructive:

Case No. 1.—R. H. F., age 18 months, while eating pecan nuts choked slightly, but soon fell asleep and slept for two hours. Upon waking, the patient breathed with difficulty, had a slight cough which evidently gave pain because it would cry when coughing. This occurred April 28, 1922. The patient was brought to us May 1, 1922. At this time breathing was labored, suggestive of bronchial asthma. The voice was clear and the throat slightly red, but with no exudate. There was little history upon which to base a diagnosis. The mother was not able to give a full account of the case. The patient was put to bed, following the successful administration of an enema. During the day the father of the child gave a fairly good history of the case, pointing to the possibility of a foreign body in the bronchus.

The *x*-ray showed both hila accentuated, and just to the right of the right hilum there was an area of increased density that might be due to edematous tissue about a foreign body, but there was no shadow of any such body.

On May 5, the *x*-ray showed the right lung atelectatic and the left lung emphysematous. The interpretation was, congestion of the right lung, probably secondary to a foreign body in the right bronchus. Bronchoscopic examination (by Dr. Sidney Israel) disclosed particles of pecan nut in the right primary bronchus. These were removed by means of grasping forceps and suction tubes, without anesthesia.

The patient was discharged May 10, 1922, cured.

Case No. 2.—C. C., age 7 years, on January 1, 1923, while playing with glass beads, aspirated a bead into the left lower lobe of the bronchus, in the left lung. The family physician was called immediately and gave it as his opinion that the bead had been swallowed, and nothing was done.

On January 3, the child had a paroxysm of coughing and showed considerable respiratory distress. Upon the advice of the family physician, it was taken to the hospital for *x*-ray examination. Roentgenograms revealed a foreign body in the left bronchus just beyond the bifurcation. It was of slightly greater diameter than the encompassing bronchus. All linear markings throughout the left lung, below the foreign body, were obliterated because of the over-distention of the lung with air. There was increased density about the foreign body, probably due to inflammatory reaction.

On January 4, the patient was given morphine, grs. ⅛, and atropine, grs. 1/200 hypodermatically. Shortly thereafter another set of *x*-ray pictures of the chest was made, and it was found that the foreign body had not changed its location. A bronchoscopic search was then made, without anesthesia. Small quantities of mucopurulent material showed in the larynx, on the vocal cords, and along the trachea. Immediately that the tip of the tube entered the left main bronchus, a slight swelling was noticed, and the bronchoscope revealed a ring of swelling several inches from the bifurcation. The foreign body could be plainly seen through this swelling, and it proved to be a blue glass bead. Because of the swelling and the jamming of the bead in the lumen of the bronchus, there was little forcep space, and therefore small opportunity to grasp the foreign body. The hooks that had been prepared in advance for the manipulation of this particular foreign body, would not suffice. The bronchoscope was withdrawn and additional hooks quickly made. The bronchoscope was reintroduced and by means of the newly made hooks the foreign body was dislodged from its location and drawn towards the entrance of the bronchus, away from the site of the swelling. Thus forcep space was created. In moving the bead, it had been turned so that the forceps could grasp it, with one lip in each end of the hole through the bead. This was done, and the bead and bronchoscope withdrawn. Thick, yellowish pus seeped by the bead during the manipulation, and followed the bead upon its withdrawal.

Immediately after the removal of the bead, roentgenograms revealed that the linear markings throughout the left lung were assuming their normal appearance. There was but slight respiratory discomfort in the form of wheezing, until 11:30 on the morning of the next day, when there was a paroxysm of respiratory distress, with cyanosis. Artificial respiration, together with morphine, grs. ⅛, and atropine, grs. 1/200, hypodermatically, relieved the condition. Adrenalin, hypodermatically, did not prove beneficial. At 2:20 p. m. there was a similar attack of respiratory distress, but worse than the one previously experienced. This attack had been anticipated, and a tracheotomy was done while the patient was in the midst of the attack. Relief was immediate, following the introduction of the tube. The cause of the respiratory distress and cyanosis was acute subglottic edema of the larynx.

Recovery was uneventful from this time. The tube was removed on the sixth day, and the patient discharged from the hospital, cured, January 12, 1923. A roentgenogram made January 12, revealed the density of the left lung to be practically that of the right, or unaffected side.

ABSTRACT OF DISCUSSION.[1]

Dr. Alvis E. Greer, Houston: It has been our experience that the prominent symptoms of foreign bodies in the bronchi vary considerably at times, depending upon the nature of the foreign body. The early symptoms of foreign bodies of organic nature, such as nuts, peas and beans, are ushered in almost always with an initial laryngeal spasm, followed in twenty-four hours with fever and toxemia. On the other hand, metallic bodies may be aspirated with little or no laryngeal spasm and with slight pulmonary and constitutional signs resulting. Or following moderate immediate signs and symptoms, there may occur a prolonged symptomless period. This period may last a year and at the end of that time symptoms appear. Or there may be periods of fever, chills and sweats recurring. Protracted cases may develop all the signs and symptoms of pulmonary tuberculosis, or more closely simulate chronic bronchiectasis with bronchitis. Dyspnoea is usually absent in bronchial foreign bodies.

Dr. Israel has described three definite types of foreign body invasion, namely: (1) Complete bronchial occlusion; (2) an expiratory, valve-like obstruction, and (3) partial obstruction.

At first glance it may seem that the physical signs would be puzzling because of their complexity. If we will think of the physical signs of the first type (complete obstruction) as those of atelectasis, the second type (expiratory, valve-like obstruction) as those of a pneumothorax, and the third type (incomplete obstruction) as those of a slightly modified asthma, having the signs on one side, we will get a simpler idea of the physical signs.

In complete obstruction we get limitation of expansion, impaired percussion note, absence of breath sounds and rales on the involved side. On the free side there is an increased volume. In the type where the obstruction is complete only during expiration, there is marked limitation of expansion on the affected side, but the chest on that side seems greatly expanded. A tympanitic percussion note, decreased or absent breath sounds and no rales, with retention of tactile fremitus, are encountered in the involved side; on the opposite side many rales are heard. In partial bronchial obstruction there is limitation of expansion, impaired percussion note, diminished breath sounds and tactile fremitus and blowing, harsh bronchi and clear-cut rales are heard.

The asthmatoid wheeze of bronchial foreign body is a valuable sign, being heard at the patient's mouth during a prolonged forced expiration.

Dr. J. H. Foster, Houston: As to who should do bronchoscopy, I should say each laryngologist must decide this for himself. Some quickly learn to do the work well, while many skilled laryngologists would not make good bronchoscopists in a thousand years. One must have a special aptitude for the work and each must decide for himself whether or not he shall try it. Personally, while I have had quite an extensive experience in bronchoscopy, I do not feel any hesitation or chagrin in referring a case I do not feel competent to handle to such men as Jackson. While the usual run of foreign body cases are easily handled by one of fair skill and experience, when a case involves blind work, such as in the upper bronchus or in the extreme lower part of the lung, I do not feel that I should attempt it, and I prefer to refer such cases to Dr. Jackson. I do not believe anyone should attempt such work who has not had unusual training and experience.

In one respect I am still compelled to differ from both authors, and that is in regard to anesthesia in children. I believe it is preferable to give an anesthetic to pass the tube. I know Jackson uses none, and it is fine in his hands, but in the hands of those less skillful there is almost sure to be some trauma in passing the tube, which can be avoided by relaxing with an anesthetic. I do not take that stand dogmatically, but I have tried both ways, and feel that in most cases anesthesia is preferable. Now, in adults local anesthesia is preferable to general anesthesia where possible. I like it very much.

Dr. W. D. Jones, Dallas: I want to concur with Dr. Foster in regard to general anesthetics in children; also, that each laryngologist should know just how far he should go for foreign bodies, considering his experience and equipment. I saw a case in Dallas several years ago in which a small pin was lodged in the lower bronchial tubes in the right lung, where one could not get to it with the smallest Jackson tube. I sent the case to Dr. Jackson at once. Dr. Jackson used a local anesthetic, got the tube as near as he could, then used the forceps. He came near giving up during the first attempt, after working twenty minutes.

Dr. O. H. Judkins, San Antonio: I am going to send the foreign body cases which come to my attention to someone who has perfected his technique in this work, and who can remove the foreign body expeditiously and to the best advantage of the patient. If there is anyone in my town who will devote the time and exercise the patience necessary to perfect himself in this technique, he can have my cases. If there is no one in my community who will do this work, I will send my cases abroad. This is unquestionably a specialty within itself, and I believe that not more than one or two physicians in each community should undertake to master it. In order to make it worth while, the rest of us should send our cases to them. Personally, I have no ambitions along this line. I am not temperamentally fitted for such work, and I will not devote the necessary time and patience to its practice to develop skill and a safe technique. I feel no humiliation whatever in acknowledging the necessity of referring these patients outside.

Dr. McReynolds (closing): My paper was not an effort at technical discussion of this subject. I feel that the general practitioners present have profited from these papers and the discussion. I have given twenty-five demonstrations of this work in different localities in the State during the past eighteen months, using the live dog for a subject. My purpose has been to acquaint the general practitioner with bronchoscopy. I felt that not enough attention had been given this subject by the profession at large. I am pleased that the pediatricians are taking up the subject, but the rank and file of these cases do not come direct to the pediatricians; the general practitioners get them first.

In the matter of anaesthetics, particularly in the light of Dr. Foster's discussion, it is a matter for the individual doctor to decide. I prefer not to give an anesthetic in the general run of cases.

Dr. Israel (closing): My views on the subject of general anesthesia in these cases are dictated by personal experience, and are supported by such well known authorities as Jackson. Some of us are more dexterous than others, and there will always be a difference in the amount of trauma produced in the operation, of course. This has a bearing on the problem of anaesthesia. I am distinctly of the opinion that local anesthesia is better in children. If the operator finds that he is not able to handle the situation under local anesthesia, he must, of course, assume the added risk of general anesthesia.

The worst cases are those in which an effort has already been made to remove the foreign body by

1. Discussing papers of Dr. McReynolds and Dr. Israel.

instrumentation. There is considerable reaction and we are confronted with the necessity of deciding whether to attempt to relieve the situation at once or wait until the reaction has subsided. Some cases will permit of delay while others will not. Tracheotomy will be necessary in a certain amount of these cases, but for the most part it is not necessary.

THE TREATMENT OF CHRONIC HYPERPLASTIC SINUSITIS.*

BY

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Broadly speaking, from a clinical standpoint, chronic nasal accessory sinusitis may be divided into (1) purulent, (2) hyperplastic, and (3) the combined form, in which hyperplasia and suppuration are both present.

It does not come within the scope of this paper to enter into a discussion of the pathology of these conditions, except in so far as it affects the lines of treatment to be adopted, hence I shall not go into the question about which there has been so much argument, *viz,* whether hyperplasia is caused by suppuration or whether purulent infection is subsequent to, and favored by, a hyperplastic condition of the mucous membrane.

Some years ago I presented a paper to this section on the treatment of suppuration of the nasal accessory sinuses, in which paper the stand was taken that in pure suppurative cases without necrosis, intranasal drainage would cure the vast majority. Further observation and experience have given no cause to withdraw from this position. The nearer the discharge approximates pure pus, the greater the chance of effecting a cure by drainage.

However, in the treatment of chronic hyperplastic sinusitis a very different proposition confronts us. This condition usually begins with a slight, low-grade hyperplasia, affecting the anterior ethmoid cells and the adjacent mucous membrane of the nose. Perhaps the only symptoms present are sneezing, susceptibility to colds and moderate pressure symptoms. Later the pathology extends to all of the ethmoid sells, and multiple polyps develop. By this time, as a rule, the lining membrane of all of the rest of the accessory sinuses is involved. We then have obstructive symptoms, discomfort, or even active pain in the nose, eye symptoms, headaches, and usually infection with pus formation. In the absence of pus there is usually a more or less profuse discharge of a serous or mucous character.

In the very earliest stage of this condition it is sometimes possible to effect a cure by local treatment alone, or combined with a slight amount of operative work on the anterior ethmoid cells. Too often, however, these cases do not come under observation at this time, or if they do, the true nature of the trouble is not recognized.

When a case ordinarily comes under our care and is recognized as one of chronic hyperplastic sinusitis, the whole ethmoid labyrinth is involved and the lining membrane of all the sinuses is more or less affected. We then have one of the most difficut conditions to deal with that ever confronts the rhinologist.

Formerly the usual procedure was to remove the polypi and such other diseased tissue as presented itself to the eye. The patient was temporarily relieved but the trouble recurred. I have seen such cases that had been operated on ten or more times. The modern rhinologist realizes that he must go further, and after removing the polypi he usually clears out the ethmoids more or less completely, and if there are symptoms referable to the other sinuses he endeavors to secure intranasal drainage and ventilation. Some cases are cured by this procedure, but often the frontal sinus becomes blocked again by redundant tissue, polyps recur about the ostia of the maxillary sinuses and the patient has recurrent attacks of acute infection which require treatment. Many of these cases have been under care and observation for years, fairly comfortable the greater part of the time, but never well.

When all that can be done by intranasal work has been tried, and the patient still has serious trouble, some form of radical or external operation is tried. In the case of the maxillary antrum the procedure is fairly well established. The Caldwell-Luce operation, or some of its modifications, is almost universally employed. The technique is well known and the results are practically always good.

Operative work on the frontal sinus, however, is not so well established. All external operations on this sinus are open to the objection that some deformity results, and it is in such a conspicuous location that the average patient shrinks from it. Another serious objection is that most of them are far from positive assurance of a cure of the condition. At one time it was believed that Killian's technique had solved the trouble in offering a thorough operative procedure with a minimum of deformity. In this operation the ethmoid cells are opened by removal of the nasal process of the superior maxilla, and part of the floor of the frontal is removed. In many cases the Killian operation is a permanent success, but in many others symp-

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toms have recurred and a secondary operation has been necessary. The operation is rather long and tedious, and in large sinuses the deformity is not negligible.

The great desideratum in severe cases of pansinusitis, is a technique whereby all of one side can be cleaned out at one operation with a fair degree of assurance of a cure. The main object of this paper is to outline such a procedure; no originality is claimed and due credit is given to the originators.

Years ago Knapp advocated attacking the frontal sinus through the floor, whereby it could be curetted thoroughly with no resulting deformity. This procedure failed to meet with general approval. Lynch has carried this technique further. Making an incision beneath the eyebrow he carries it well down on the nose. The periosteum is elevated from the entire floor of the frontal sinus and from the lachrymal bone, nasal process of the superior maxilla and the orbital plate of the ethmoid. To avoid injury to the eye by retractors, one or two sutures are placed in the periosteum and these are used to draw the eye downward. The entire floor of the frontal sinus is quickly removed, the sinus curetted thoroughly, and then the orbital wall of the ethmoid is removed, exposing the ethmoid labyrinth back to the sphenoid. In this way the ethmoid cells can, under direct inspection, be thoroughly removed up to the cribriform plate and back to the sphenoid. The orbital ethmoid cells are reached, even though they extend well out.

This operation has another great advantage, which will appeal to the experienced rhinologist. We are all familiar with the fact that complete exenteration of the ethmoid is a regrettable necessity. A nose upon which such an operation has been done can never be a normal nose, and often the large open space left is dry and painful, especially in cold weather. Following the Lynch operation, the orbital wall being removed, the orbital tissues press inward sufficiently to take the place of the tissue removed, and it is remarkable how nearly normal the nose appears. The results, in my limited experience, are good.

The above described operation can be carried out and a Caldwell-Luce operation on the antrum done, in about the time necessary to do a Killian on the frontal, and all of the sinuses on one side are cleared out and the patient given the best possible chance of a permanent cure with a minimum of deformity and subsequent discomfort. Of course, if both sides are involved, two operations will be necessary, as it would be too much to attempt both sides at one time.

ABSTRACT OF DISCUSSION.

Dr. J. M. Woodson, Temple: I would like to emphasize, if possible, what the author said about the operation that Dr. Lynch has recommended. I have had a few cases and that operation has always been free from any deformity; there is no scar that may be easily observed, and one has the very best opportunity to reach all parts of the sinus and give it absolute drainage.

Dr. Foster (closing): The main object in presenting this paper was to stress two ideas: (1) The large number of these cases that are never cured, and (2) that the operative procedure detailed above will cure these cases with the best functional nose we have been able to obtain. We are too prone to believe that in these cases the disease is confined to the ethmoids; whereas, usually the lining membrane of all of the sinuses is involved.

SINUS INFECTION IN CHILDREN.*

BY

EDWARD CLAY MITCHELL, M. D.,

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My interest in this subject was aroused by my failure to locate the source of infection in certain cases in which the symptom complex was undoubtedly of a focal infection. Dean states that we have little of this infection in the South, but in our section of the country, particularly since the recent epidemic of influenza, we find it during the fall and winter months. This infection is prevalent after epidemics. Its study is still in its infancy. We find little or no mention of nasal sinus infection in the pediatric texts. The rhinologists have lately described in detail sinus diseases, both in text books and current literature, and it has been classed as a purely local condition. As the case is usually seen first, by the general practitioner or pediatrist, it falls distinctively in our field for investigation. Relatively few go directly to the rhinologist, and for this reason many of these unfortunate children are neglected for long periods. We can only hope for results by co-operation with the rhinologist.

Anatomy.—The ethmoid cells are present at birth. They develop until puberty is well established, and reflect in their growth the influence of the infections they have suffered. The sphenoid sinus is generally a distinct, bony cell at birth, but has no clinical significance. From the age of three the sphenoid sinus grows rapidly, so at the age of ten it reaches the adult size. The frontal sinus is formed by the migration of an anterior ethmoid cell into the frontal bone. At birth and during early years of life, the ethmoid cells are sharply divided into an anterior and a posterior group. The spheno-ethmoid labyrinth assumes the size and shape that its component bones will allow, and the

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presence or shape of the frontal sinus is governed by the migration of the anterior ethmoid cells. The growth of the sphenoethmoid labyrinth should be proportionately pneumatization and capsulation. If pneumatization exceeds there will be present a cystic condition, whereas if the capsule is hypertrophied, there will be present a sclerotic condition.

Symptology.—The symptoms first complained of are seldom referable to the sinuses, but are directed to other organs, such as the lungs, the glands, the kidneys or the gastro-intestinal tract. In fact, any organ or system may be infected.

In the past, we have only considered the possibility of sinus disease when there were marked signs of inflammation in the nose. This is an erroneous idea, for many of the cases have only minor local signs, and the presence of the discharge will require a diligent investigation before it is located. In fact, there may be no visible discharge externally, the only sign of a discharge being a coating of the nasal pharynx by a glary mucus, or the hypertrophy of the columnar lymphoid tissue of the pharynx.

Clinical History.—These cases are of two types, acute and chronic. The acute present the symptoms of an acute infection of the upper respiratory tract. The patient may have (a) fever, either high, of the septic type, or low and constant; (b) cough, productive or non-productive, with or without hoarseness; (c) sneezing, particularly in the morning; (d) nasal discharge, either anterior from the nares or posterior into the naso-pharynx; (e) enlarged glands, either submaxillary or cervical, and (f) toxic. Nasal examination will reveal a discharge, either anterior from the vestibule or posteriorly into the naso-pharynx. The nasal membrane will be congested and coated by the discharge. The lymphoid tissue of Waldeyer's ring will be acutely inflamed. The cervical glands, especially the submaxillary group, are usually enlarged and tender, but seldom suppurate. Transillumination in children is not satisfactory, but occasionally will localize an empyema if only one of the major sinuses has suppurated. Transillumination is particularly valuable when there is a distinct difference between the two sides. The roentgenogram is often of value. The use of nasal suction will increase the discharge and reveal its true character. The acute cases are, as a rule, not so difficult of detection.

The chronic cases have passed through the acute nasal stage and the inflammatory processes have shifted to other localities, but a careful history will often reveal that the child has recently suffered a so-called cold, to which the parent has not attached any connection with the present illness. This is the reason why the symptoms complained of are not referred to the sinuses, but more often attributed to some other organ. These patients present irregular and indefinite symptoms. As a rule, the chronic picture is that of a debilitated child, nervous and irritable, anemic, with a capricious appetite, coughing and losing weight. The cough may be at times so constant and spasmodic as to be confused with pertussis, and at other times its character may lead to the diagnosis of tuberculosis. There is, naturally, a coated tongue with foul breath. If the tonsils and adenoid have been previously removed, the remaining lymphoid tissue of the throat will be hypertrophied and inflamed. The sign is very indicative of sinus disease.

Glandular and Lymphoid System.—In many cases the return of adenoid symptoms following operation is due to a nasal obstruction from congestion of the nasal membranes and turbinates, and to a hypertrophy of the remaining lymphoid tissue of the throat from the irregulation of the discharge from the infected sinuses. It is our belief that many of the secondary adenoid operations in the past were unnecessary and untimely and therefore not successful, as the real cause had been overlooked. We have seen in our earlier experiences cases repeatedly operated upon for the return of adenoid symptoms without result, and this convinced us that the real cause was not the return of the adenoid, but the presence of some condition not diagnosed. Mullin has shown that the lymphoid drainage of the sinuses is by way of the submaxillary and deep cervical and retropharyngeal glands, into the cervical lymph duct, and thence into the great veins, to finally enter the right side of the heart, from whence the pulmonary artery conveys it to the lungs. It is our belief that many if not all cases of glandular fever, especially those occurring after the removal of tonsils, have their origin from infection in the sinuses. This is one argument against promiscuous removal of the tonsils before a child has developed its immunity to the ordinary infection of its station in life.

Pulmonary.—The cough is sometimes so persistent as to keep the little patient awake several nights in succession. It is usually worse during winter weather, to clear up in warmer months. In many cases, the cough disappears so rapidly after treatment of the sinuses that it substantiates the belief that the bronchial pathology is entirely secondary to the sinus infection. Bronchial asthma in

children should be viewed with suspicion and the sinuses thoroughly examined. Children who have no sensitization, as revealed by the protein, pollen or bacterial tests, will often be of this group.

Headache may be present in older children during an acute attack, but is rarely complained of by the younger child, unless the infection extends beyond the limit of the sinuses. The typical headache of the sphenoid sinusitis is in the sub-occipital region or the center of the head, radiating to the surface at the vortex. The ethno-frontal sinusitis will cause a headache through the temples and over the eyes, with pain on using the abductor muscles of the eyes. In many cases, particularly in the chronic and in the younger children, this headache is never complained of, unless attention is attracted to it.

Nervous System.—These little patients are nearly always intensely nervous—they seem to have an inordinate fear of examination, as described by Lamere in a recent article. They view with apprehension all shining instruments, and often an examination is impossible until confidence has been established. We have had one case in which a chorea remained after tonsillectomy, to improve only after clearing up an infection of the sinuses.

Kidney Infection.—Many cases of pyelitis originate from the sinuses. Inasmuch as diseased tonsils and adenoid are found upon examination in these cases, they are considered to be the cause of the pyelitis. But after removal of the tonsils and adenoid, the pyelitis may return during the cold months in an aggravated form. When the latter condition arises, a more thorough investigation will be rewarded by the discovery that the sinuses were also infected, and that the simple removal of the tonsils and the adenoid was not sufficient to remove the foci of infection. In many instances the sinusitis was present at the time of operation. Another kidney complication met with in our series, was acute hemorrhagic nephritis. In this series diet and medication have been found to be of no value in freeing the urine while the infection of the sinuses is active.

Osseous and Joint.—Chronic arthritis is often present in these children, as pointed out by Dean and Byfield in their series.

Special Senses.—Infections of the organs of the special senses occur. White of Boston, has attracted attention to the importance of sinus disease in progressive blindness, when the pathology is a retrobubar neuritis. Other observers stimulated by this work have isolated cases of progressive deafness in which the etiology was the infection of these sinuses. The recurrence of deafness in which there has been middle ear suppuration, may be due to the spreading of the infections through the eustachian tube. Mastoid surgery may be complicated and protracted by reinfection from this same source. In these cases, it is imperative that the sinus disease be cleared before a successful conclusion of the mastoid operation will occur.

Gastro-Intestinal System.—The discharge from the sinuses must descend either into the bronchial tracts or into the stomach. If into the latter, it will consume the gastric ferments and thereby divert their action from digesting food to disinfecting the discharge. The consumption of these ferments deprives the child of its appetite. If the child is forced to eat, the digestion will be sluggish and incomplete. Following this may be a train of gastro-intestinal symptoms, varying with the degree of the ability of the intestines to take over the increased load of digestion. If the gastric contents do not destroy the bacteria of the nasal discharge, these organisms will infect the gastro-intestinal tract and produce an enteritis.

It is very important that these sinus infections be recognized early and treated, for the growth of the sinuses is influenced by the infection that the sinuses suffer. If unrecognized or insufficiently treated, the pneumatization of the ethmo-sphenoid labyrinth will be stopped and the capsulation continued to the point where the capsule is relatively hypertrophied, producing a clinical entity which may be designated as persistent infantile sinus. The persistent infantile sphenoid-ethmoid sinus has a thick capsule with few and small anterior cells, and usually a large posterior cell. If the condition is allowed to continue into adult life, we will have an atrophic organ that will be chronically infected. In contrast with the normal adult sinus, these persistent infantile sinuses behave very differently under the same infection. The normal sinus will react acutely to infections, and if chronically infected, produce hypertrophy or cystic changes. The persistent infantile sinuses are not capable of acutely reacting to infections, but when infected become chronically involved and present atrophic manifestations. The membranes being atrophic, infection readily produces a condition resembling an osteitis, which is more painful. In some of our cases, we have seen a nose present these two stages, due to one side being normal and the other of the persistent infantile type.

Treatment.—The relief of the acute symptoms is the keynote of the treatment during the active stage. One-half a drachm of a solution of adrenalin, 1-1000, in three ounces of a cocaine solution, one-fourth of one per cent, may be used as a spray, to shrink the nasal mucous membrane, in this way re-establishing ventilation and drainage of the nares and the para nasal sinuses. Where the discharge is profuse, the use of some form of suction will expedite the drainage, and the discharge may be irrigated from the nares with a simple saline solution. (Sodium chloride, ounces six; sodium bicarbonate, ounces six; menthol, grains eighteen. One-half teaspoonful to a glass of water as nasal irrigation.) Whenever the membranes have been irrigated, it is necessary to give them a protective emollient, and a half or one per cent phenol, in liquid albolene, combines the properties of a mild antiseptic and a soothing lotion. If there is need of a more powerful antiseptic, mercurochrome, two per cent, or neo-silvol, five per cent, may be instilled into the nares after the irrigation and before the oil. The use of mechanical means should not replace well established therapeutic agents, and a prescription containing Sprt. camphor, dr. ½; Tr. belladonna, dr. 1; heroin, gr. ¼; Elix. aromatica, and aquae, q. s. oz. 4, will lessen the nasal discharge. The acute cases will subside of themselves, but treatment will lessen the discomfort and lower the percentage of complications.

The treatment of the chronic cases is both constitutional and local. Cod liver oil will aid calcium metabolism deposition. Heliotherapy will also be of value. The local treatment in the chronic cases differs from that used in the acute cases, in that the adrenalin-cocaine mixture is not necessary unless the nasal congestion prevents sufficient suction and irrigation. The length of suction should be increased, as it serves a double purpose of withdrawing the discharge and acting as a pneumatic massage to the membrane. The irrigation should be thorough enough to wash away all of the discharge present in the nares, and in this manner give the throat some relief from the constant post-nasal drip. In the chronic cases, a more stimulating oily spray is used. (Menthol, grains 5; camphor, grains 5; eucalyptol, minims 20; liquid albolene, ounces 2. Use in oil atomizer. This will stimulate the nasal membrane and is more delightful and will appeal to the child.) The treatment of the chronic cases should be continued long after the disappearance of the discharge. The use of an autogenous vaccine, made from the nasal discharge, with or without the addition of the tonsillar infection, is a routine to increase the immunity of these children.

The surgical treatment in these cases, in either drainage of the antrum when it is acting as a reservoir, or exenteration of the ethmoids and resection of the anterior wall of the sphenoid in the cases suffering from the pernicious infections. Surgery on the sinuses of children is a serious problem, and every step should be taken to avoid any operative interference with these delicate structures, but when the necessity arises for surgical interference, the work must be thorough. Inasmuch as we hope that the sinuses will continue to grow after their operation, care must be taken that the remaining ethmoidal cells have a clear passage for their future drainage and not become blocked off to afterwards produce a circumscribed empyema. The post-operative treatment of these sinuses should be directed by the surgeon and extended over a period of six months to a year. The opening into the antrum will rapidly close unless kept patent. It is a pleasure to see a child's nose clear itself of discharge, scabs and crusts, and the membrane take on its functions of moistening and warming the inspired air, but it is disappointing to contend with an ever-increasing discharge in spite of vigorous treatment or radical surgery.

CONCLUSIONS.

1. Nasal sinus infection in children is important and common, and often overlooked.
2. The nasal signs may be slight in comparison with the constitutional manifestations.
3. Early recognition and treatment is necessary to prevent the occurrence of a persistent infantile ethmo-sphenoid labyrinth.
4. The infantile type of ethmo-sphenoid labyrinth, even in the adult, is prone to infection, and the inflammation tends to become chronic.
5. The investigation of the nervous, anemic, malnourished child who is kept awake by coughing, should include a thorough investigation of its paranasal sinuses.

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OTITIS MEDIA AND ITS SEQUELAE.*

BY

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Otitis media needs no introduction to the profession, but because it is so often neglected until it becomes difficult to treat satisfactorily, I feel that it is well worth our consideration.

Otitis media is an inflammatory disease of the middle ear. It is classified as simple catarrhal, purulent and adhesive, and any of these conditions may be either acute or chronic.

The anatomical divisions of the middle ear are, the atrium or lower portion and the vault or upper portion. The atrium contains but little connective tissue and has a closely adherent membrane lining its walls, while the vault contains a lining membrane that is vascular and hangs in folds from the tympanic roof dividing the attic into compartments. The atrium is separated from the attic by a horizontal fold of mucous membrane passing across the outer chamber of the vault. The mucous membrane of the middle ear is continuous with the mucous membrane of the pharynx through the eustachian tube. It invests the ossicula, the muscles and nerves contained in the vault of the tympanic cavity and is reflected into the mastoid antrum and cells, which are continuous with the attic posteriorly.

The etiological factors that produce otitis media include all conditions that interfere with normal nasal respiration, *viz.*, tubal catarrh, which in most cases is primary or prodromal; infection of the eustachian tube with consequent swelling, which is invariably accompanied by an associate inflammation of the naso-pharynx, and any abnormality which closes the pharyngeal orifice of the tube or the tube itself. Adenoids, tumors of the naso-pharynx, syphilis, tuberculosis and rhinoscleroma, disturb the physiological function of the eustachian tube, block the motility of the tube muscles and shut off the ventilation of the middle ear, causing catarrhal otitis media.

The exciting causes, in the order of their importance are: (1) Acute naso-pharyngitis, commonly spoken of as a cold in the head; (2) the acute exanthemata—scarlet fever, diphtheria, measles, pneumonia, typhoid fever, influenza and variola, all of which may effect the antrum and produce mastoiditis; (3) the careless or improper use of the nasal douche in cleansing the nose, producing a reflex action inciting the patient to paroxisms of coughing, thereby forcing an infection into the eustachian tube; (4) diving or swimming under water, which may injure the middle ear by expulsion of water taken into the nose or throat through the eustachian tube or by impact of the cold water against the ear drums; (5) traumatic injuries of the drum membrane, such as a forcible slap upon the ear and concussion from explosions, resulting in a ruptured ear drum (this of itself does not cause otitis media but permits an infection to be carried to the middle ear, thereby producing otitis media); (6) operations in the nasal cavity, which may cause oedema and make possible the spread of infection to the eustachian tube and middle ear.

The first symptoms of otitis media are a sense of fullness, crackling sounds and, many times, noises in the head. Hearing may be slightly or not at all involved. Earache develops suddenly and soon becomes a constant pain, rapidly reaching an unbearable degree of severity. The patient may retire feeling well and be awakened before morning by the severity of the pain. The pain is usually constant but there may be periods of exacerbation in intensity. With the beginning of pus formation the pain becomes throbbing or drawing in character. Naturally, sleep becomes impossible; and when relief is not forthcoming, the loss of sleep adds to the nervous chain of symptoms. The pain, as a rule, covers all other symptoms, but if the patient's attention is called to the fact, tinnitus and deafness are manifest. After the acute condition becomes chronic, the patient will complain of head noises and deafness. The deafness is progressive and many times marked, but rarely total.

The constitutional symptoms vary widely, with the age of the patient. In adults the temperature may remain normal, while in children it may range from 102° to 105° F. The temperature variation probably depends upon the individual differences in stability of central nervous control. The fever is due to a reflex disturbance of the cerebral heat centers and not to septic absorption.

On inspection of the drum membrane, when the earache is first experienced, the drum head will be found deeply injected. The upper part is usually redder than the lower, but there is no line of demarcation. A few hours later, the membrana tensa is not only exceedingly red but bulges markedly outward into the lumen of the meatus, and a slight central depression may be seen at the site of the umbo. In a few more hours we

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may find the canal filled with pus. After cleansing the canal we will, as a rule, find a perforation in the posterior segment of the membrane. The discharge may vary considerably, depending on the constitution of the patient, the character of the infection, the time elapsing between the onset and rupture or incision of the membrane, and the efficiency of the treatment. The favorable cases are those in which the inflammation is confined to the atrium, where the lining membrane is closely adherent to its walls. Here the inflammation tends to be self-limited by reason of the very limited field involved and the unfavorable nidus provided for the growth of germs. The mechanical separation of the atrium from the vault is made more complete by the inflammatory swelling of the horizontal mucosa dividing the two sections, thus favoring early rupture of the drumhead, with drainage and relief of tension and early resolution. In the vault where there are so many folds of vascular connective tissue, a suitable nidus for the growth of infective germs is found, which favors the development of suppurative inflammation. When a purulent condition develops in the vault the inflammation travels backward along the pathway of least resistance, into the antrum. The escape of pus downward into the atrium is a later stage. Spontaneous rupture of the drum membrane is therefore usually delayed, which gives time for a mastoiditis to develop before drainage is established through the drum. When the system is below par and the leucocytes are no longer able to cope with the invading bacteria, the stage is set for a continuous performance, in which all the local structures in the ear suffer permanent damage or complete destruction.

Treatment should be directed to the correction of pathological and anatomical defects. A fireman does not direct his hose at the flame to put out the fire, but at the mass that produces the flame. This principle applies to the successful treatment of otitis media. In purulent ear trouble, medical treatment has little or no effect after the acute symptoms are well established. During the congestive stage an attempt should be made to check the symptoms by abortive treatment, *i. e.*, building up the resistive power of the patient by establishing free elimination, putting the patient to bed, and giving plenty of wholesome, easily digested food. A local application of a 5 to 10 per cent phenol-glycerine solution will ordinarily relieve the congestion. By following this line of treatment the fever will usually take care of itself, but if not some antipyretic may be given. My choice is aconite. If the case does not yield to abortive treatment and becomes sub-acute or chronic, the treatment must be directed to the primary source of disturbance, which is, in most instances, the nose and naso-pharynx.

If adenoids are present they should be removed. The nose should be properly aerated with enough of the structures left intact to warm and moisten the air before it enters the lungs. When the septum is deviated or deflected, and has a thick maxillary ridge with projecting spurs, submucous resection is, as a rule, a good procedure. If the septum causes a blocking of the eustachian tube, good results will follow, providing the septum operation is done in time. My observation is that middle turbenectomy is generally a bad procedure. To compensate, the lower turbinate hypertrophies to such an extent that it does more damage than the two formerly did, and if it is removed the patient will develop a dry, hyperplastic naso-pharyngitis that damages the middle ear by closing the pharyngeal orifice to the eustachian tube. Early inflation of the tube by the catheter, systematically and routinely followed with treatment directed to the correction of the inflammatory condition of the mucous membrane in the nose and throat, will prevent catarrhal deafness and the formation of adhesions following otitis media. Should a suppurative condition of the middle ear develop, as is most likely, before the otologist sees the case, treatment will necessarily be directed to the middle ear itself, for the purpose of cleansing and establishing free drainage. If the infection is in the atrium, incision of the drum parallel with the posterior attachment, close to its margin, will insure sufficient drainage; but if the infection is in the vault, the incision must be carried up through Shrapnell's membrane. In either case it will be necessary to irrigate the ear with some antiseptic solution, often enough to keep the meatus clean. The use of suction will help to draw the infection from the antrum, and many times it will thus prevent mastoiditis.

Bonime of New York, claims that patients suffering from acute mastoiditis and discharging ear, can be relieved of the necessity of mastoidectomy by the use of stock vaccine made from the prevailing bacteria found in the discharge. He advocates the use of autogenous vaccine, following the stock vaccine. The systemic treatment of tuberculous otitis media by the injection of tuberculin, twice weekly, in graduate doses, kept within the maximum tolerance of the patient, gives good results. The treatment for syphilitic otitis

media is the same as that prescribed for syphilis in general, *viz.*, neosalvarsan, potassium iodide and mercury.

CASE REPORTS.

Case No. 1.—A 12 year old boy came to my office suffering with double otitis media and pronounced deafness, with a history of frequent colds, earache and partial deafness. A paracentesis was done on both drums, and the patient directed how and when to irrigate the ears. The acute symptoms subsided in a few days but the deafness persisted. Tonsillectomy and adenoidectomy were advised, to restore the hearing. The father consented to the adenoidectomy but would not be convinced that tonsillectomy was necessary. When the father saw the adenoids, which were of medium size, he said he would not give a dime to have that much taken out of his nose. He had an agreeable surprise coming. A few days later, when he returned from work, the boy was much pleased to tell him that he could hear again.

Case No 2.—A middle aged lady complained of beginning deafness and difficult breathing. Examination showed a deflected septum with projecting spur, blocking the nose so completely that catheterization of the eustachian tube was almost impossible. The drums were retracted. A diagnosis of chronic catarrhal otitis media and tubal catarrh was made. A submucous resection was performed, with good results. Timely aeration of this patient's nose restored normal hearing, besides benefiting her health generally. Such favorable results cannot be expected if the treatment is delayed until a permanent change has taken place in the structure of the middle ear.

Case No. 3.—G. D. S., male, age 23, gave a history of marked decrease in hearing shortly after the armistice. He was in the front lines during the war, where he was subjected to much loud noise from bursting shells. He developed bilateral O. M. P. C., and tertiary syphilis was shown by a double plus Wassermann. He was totally deaf in 1919. Antisyphilitic treatment was given and the hearing began to improve. A year later his hearing had improved so that he could hear a loud voice at ten feet. Tuning forks were not heard by air conduction but were heard three seconds by bone conduction. Another course of antisyphilitic treatment was given and tonsillectomy performed. His hearing improved to 20/20 in both ears. As soon as the effect of the syphilitic treatment began to wear off his hearing became worse again, but he can still hear C. V. in the right ear at 8 feet, and in the left ear at 12 feet. This variation in hearing can be explained only by the amount of control over the syphilis.

In conclusion, prevention is the best cure. Early diagnosis of nose and throat conditions, with immediate treatment properly applied, whether medicinal or surgical, will in the majority of cases prevent otitis media. The cases making up the minority should be recognized and treated before permanent change takes place in the structure of the middle ear.

Absorbine Jr.—A liniment almost identical in physical appearance may be made from the following formula; oil of wormwood, 1 dram; oil of sassafras, 26 minims; menthol, 15 grains; actetone, sufficient to make 11 drams.—*Jour. A. M. A.*, Dec. 23, 1922.

Ferraline (Ferraline Medicine Co.), consisting essentially of iron sulphate with other iron compounds and water. Crab Orchard Mineral Water (L. H. Goodwin and Co.), a highly mineralized water, the dissolved mineral matter consisting chiefly of Glauber's and epsom salts.—*Jour. A. M. A.*, Dec. 16. 1922.

ZINC IONIZATION IN THE TREATMENT OF CHRONIC SUPPURATIVE OTITIS MEDIA.*

BY

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My excuse for offering this paper is that we may find some other and better means than an operation for the chronic discharging ears that we all have to deal with.

Ions is the term given by Faraday to the components of chemical compounds set free by electrolysis, they being known as anions when set free at the positive pole and as cathions at the negative pole.

In the electrolysis of tissue there is a double decomposition. The salts in the tissue split up and the alkalies are liberated at the cathode and the acids at the anode. The alkali metal decomposes the water in the neighborhood of the cathode (negative pole), liberating hydrogen, which appears as bubbles of gas. The acids from the salts contained in animal tissue are liberated at the anode (positive pole), and generally oxygen is liberated, but the reaction which takes place at the anode depends very much upon its composition. If the electrode is of zinc, then chloride of zinc is formed.

My attention was first called to this method of treatment of chronic otorrhea in London in April, 1921, by Dr. W. Salisbury Sharpe, who had used it in a number of most obstinate cases. Some of these cases yielded to ionization after having resisted other methods.

Before coming to a conclusion as to the value of the treatment, one would like to know why it is useful; the particular condition to which it is applicable, and to see the record of a number of cases treated with it, as the sole, or almost sole, treatment used.

I will classify chronic otorrhea into those cases which show: (1) Tympanic sepsis alone; (2) tympanic sepsis plus attic or mastoid sepsis; (3) tympanic sepsis plus inflammation of the external auditory canal or of the eustachian tube, with or without septic teeth, tonsils, adenoids or sinus infection; (4) tympanic sepsis plus polypi, granulations or areas of caries, and (5) tympanic sepsis plus a combination of two or more of the foregoing conditions.

In cases of tympanic sepsis pure and simple, treatment by ionization alone is sufficient, and especially so if the perforation in the drum membrane is large enough to allow

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the introduction of the zinc solution and its distribution in sufficient amounts.

Cases coming under the third heading must have additional treatment, such as the removal of diseased teeth, tonsils and adenoids, to complete the cure and prevent recurrence.

Cases in which polypi are present are amenable to ionization after the polypi are treated by electrolysis.

Cases where there is attic or mastoid suppuration, are nearly always unsuited for treatment by ionization alone, because it is not usually possible for the fluid to gain access to the whole of the infected area.

The technique of the treatment is very simple. The ear must be well cleansed and *gently* syringed with a warmed solution of zinc sulphate, containing one grain to the ounce of water, the patient lying with the infected ear up. The auditory canal is filled with the zinc sulphate solution, a Seigel otoscope inserted, and gentle aspiration done to remove any air bubbles which may be in the tympanum.

It is necessary that one be provided with a direct current, either from dry cells, storage battery or a generator capable of delivering at least ten milliamperes of current when connected with the patient. The positive electrode, which is a short piece of zinc wire, is passed through a bit of glass tubing, provided with a rubber tip to make a tight fit in the external auditory meatus, which is filled with a warm solution of zinc sulphate. The negative pole, a moist sponge, is held in the hand of the patient. A current of three milliampere is slowly turned on and allowed to flow for ten or fifteen minutes, and then gradually turned off. The external ear canal is not dried.

In my limited experience, I have noticed complete cessation of discharge after one treatment, and within a few days the ear is dry and free from inflammation.

If there is a failure in what seemed to be a suitable case for ionization, and the discharge continues after the first real treatment, it is probably due to the hole in the ear drum being too small to permit the zinc solution to enter, and at the next treatment the solution should be injected through the hole with a small syringe, the procedure then being as before.

Diphtheria Toxin-Antitoxin Mixture-Lilly.—A diphtheria toxin-antitoxin mixture (see New and Nonofficial Remedies, 1922, p. 282), each c.c constituting a single human dose and containing 3 L+ doses prepared in accordance with the requirements of the U. S. Public Health Service. Marketed in packages of three vials sufficient for one treatment. Eli Lilly & Co., Indianapolis, Ind.

IMPROVEMENT OF HEARING, NERVOUSNESS AND TINNITUS IN CHRONIC OTITIS MEDIA FOLLOWING A SYSTEMATIC METHOD OF MANAGEMENT.*

BY

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The two main types of chronic middle-ear catarrh, *viz.*, chronic hypertrophic otitis media and chronic hyperplastic otitis media, may originate independently as separate lesions from their incipiency (at least, some aurist believe this), but they probably in most cases represent different stages of the same disease; in other words, one is a sequel to the other. If this be true, a gradual conversion of a simple exudative inflammation into a hyperplastic condition, in which the normal tissue elements are to a considerable extent replaced by new connective tissue, must occur. Kerrison[1] says, "There can be no doubt that as seen by the aurist, they occur as conditions having a different pathologic basis and also differing substantially in their response to treatment."

In my visits within the last year to four of the largest clinics in America, and in conversation and correspondence with scores of aurist, I have been surprised that only a few seem to regard chronic hypertrophic otitis media and chronic hyperplastic otitis media, as pathological lesions to be considered separately. The tendency is to regard both conditions as chronic middle-ear catarrh, for which treatment is of small benefit. Chronic hypertrophic otitis media is defined as a chronic exudative inflammation of the eustachian tube and tympanum, whereby the lining membrane of *both* is greatly thickened and the caliber of the tube reduced, with resulting impairment of hearing. It seems rational, therefore, to consider lesions of the tube in connection with diseases of the middle ear.

Physical evidence of some degree of nasal obstruction is present in nearly every case of chronic tubal catarrh. Obviously, in such a case no amount of local treatment of the ears by inflation, pneumatic massage, etc., will be of any permanent value until the nasal lesion, whatever its nature, has been corrected. Chronic tubal congestion and obstruction due to actual hypertrophy of the tubal mucosa, are frequently due to chronic

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1. Kerrison: Diseases of the Ear, Second Edition p. 223.

naso-pharyngitis, or to enlarged posterior tips of the turbinates, leading to the more serious lesions when not corrected—structural thickening, inflammatory infiltration, or at least to tissue changes more complex or advanced than simple venous engorgement; hence, the importance of correcting all pathologic conditions of the naso-pharynx in the management of these cases is too often neglected. A carefully conducted functional examination is very necessary, of course.

Primarily the mucous membrane is involved, with the characteristic changes of congestion and round cell infiltration, and a tendency toward the formation of more or less new connective tissue, resulting in a greatly thickened mucous membrane everywhere throughout the tubo-tympanic space. The calibre of the tube may be almost closed to the automatic passage of air to the tympanum, with diffuse inflammatory thickening around the labyrinthine windows when the ossicles are in contact with the tympanic walls. These are the earliest characteristic features of these lesions, interfering markedly with the mobility of the ossicles. The secondary changes in the form of adhesive bands between adjacent structures limits still further the mobility of the ossicles.

It is clear that no amount of inflation, probing or pneumatic massage, will be of permanent benefit as long as the varied morbid changes which occur in the naso-pharynx and at the pharyngeal end of the tube remain uncured and unaffected by such an irrational method of treatment. Certainly, the cause of the lesion must be eliminated and the origin of the lesion which is to be the object of our attack is, with only a few exceptions, found in the nasal cavities or in the naso-pharynx; therefore, the logical procedure is to apply treatment at the point primarily affected.

It was by this line of reasoning that I arrived at a decision to try diathermy or high frequency, more than five years ago, applied directly to the pharyngeal end of the tubes and other affected areas in the naso-pharynx, and to the posterior tips of the turbinates if enlarged. I have given these treatments through the mouth by placing a spool between the teeth to keep the mouth open, and using the ordinary laryngeal electrode in the naso-pharynx, with mild current, for from eight to ten minutes, occasionally moving the electrode from one place to another or from the orifices of one tube to the other. The only inconvenience has been the free flow of saliva from the patient's mouth, the heavy electrode handle, and the occasional nausea and gagging of some patients.

I had a nasal electrode made to overcome this annoying feature, and my results have been almost uniformly satisfactory. One peculiar circumstance is that I have never been able to discharge a patient who has had this treatment. They live in constant fear of a return of this troublesome malady and are willing to do anything to obtain relief.

During the first two weeks of treatment I alternate, giving diathermy applications at one visit and the inflation treatment at the next, seeing the patient every third day. Nearly all cases are improved by inflation alone, but the benefit is only temporary, and as the disease progresses inflation and local use of astringents fail to restore the functional activity of the canal and the eustachian bougie must be employed.

Bougies made of whalebone, celluloid or composition, of which gum elastic is a constituent, have proven worthless in my practice, and I have for six years used probes made of catgut, by Dr. George Kohler, in his office in Minneapolis. These probes are porous, and I dip them in an alcoholic solution of nitrate of silver, thirty grains to the ounce. The silver is absorbed, and when the probes are introduced into the tubes and allowed to remain one or two minutes, the tubes are thoroughly medicated, better than could possibly happen when applied with applicators used for this purpose.

I have never seen but one textbook that mentioned the use of catgut probes, and that was Barnhill's Modern Otology, and I have never found but one other aurist using them —Dr. Kohler. He makes his own probes and kindly consented to supply me with them.

The immediate improvement following the use of the catgut probes immersed in the alcoholic solution, with inflation, was nearly always gratifying, but the transitory character of the effects of the treatment caused me to seek a remedy offering more hope, when used in conjunction with the inflation and bougie treatment, and this I believe I have found in diathermy. I do not believe that operations on the ossicles offers any hope for relief in this lesion; at least, I do not believe many aurists can do it. And if there are any cases where it is indicated the contraindications are so many that its usefulness would be greatly curtailed.

Barnhill[2] says, "It is highly essential in all cases where operative measures are contemplated for the relief of deafness due to obstruction in the conducting apparatus, to ascertain positively beforehand what damage, if any, has been done by the disease to the

2. Barnhill: Modern Otology, p. 503.

inner ear or the perceptive portion of the organ of hearing and to avoid the operation upon the drum membrane or ossicles in the event that perception by bone conduction is found greatly impaired." I have seen patients who have been subjected to tympanic massage, given indiscriminately by various methods, without the aurist taking into account the very limited excursions which the ossicles can make in response to movement of the drumhead.

I believe that vibratory massage with instruments which fit into and tightly close the meatus, produces such unphysiologic movements and of such an exaggerated character, that much harm must ultimately result from it, nothwithstanding I have seen cases where a very noticeable gain in hearing has resulted after the first treatment. Progressive improvement probably never has resulted from repeated use of this measure.

While I do not believe in using many therapeutic agents together, I often begin in a routine way.

Tinnitus—For relief of the distressing tinnitus aurium, I often find it necessary to prescribe internal medication. The bromides of sodium and potassium, and dilute hydrobromic acid are most useful. The bromides are beneficial because the patient who suffers greatly from tinnitus, is usually nervous, has insomnia and often melancholia. When given for the relief of head noises, doses of from 15 to 20 grs., one or more times a day, the last dose at least one hour before retiring, are used. Massage of the neck and face, performed according to a definite plan, standing in front of the patient and moving all strokes downward, is beneficial.

My routine procedure is to first remove all foci of infection, correct irregularities in the nasal chambers, remove or destroy all lymphoid tissue in the naso-pharynx, then treat the naso-pharyngitis as follows: Irrigate the nasal chambers and naso-pharynx with alkaline antiseptic solution, and follow this with an application to the mucosa of both the nasal cavity and naso-pharynx, of a 15 per cent solution of argyrol.

Gout and rheumatism as factors in the etiology of chronic middle-ear catarrh, are important, and such a diathesis should suggest treatment for its elimination; but the gout and rheumatism may be due to foci of infection in the sinuses, teeth or tonsils, which must be taken into account and corrected if treatment is to be successful.

Finally, the inflation and the catgut bougie treatment, is given, alternating with the high frequency application to the eustachian tube orifices.

Osborne says,[3] "Electricity through vacuum high frequency electrodes does increase the output of urea and other products of metabolism and therefore has been advised for chronic arthrites, gout, myalgias and neuritis, and for nerve muscles and joint pains, it is often immediately successful." If the patient is insulated on a stool, the electrode held stationary upon a part will cause a certain amount of diathermy heat; there is nothing psychic about that.

A lower blood pressure than that which is considered normal for healthy individuals, is usually found in persons suffering with tinnitus, but in some cases where the blood pressure is lowered, improvement seems to follow the use of suprarenal gland extract. Of course, this remedy, nor any other, will be of worth in those cases of severe tinnitus which have their origin within the brain.

I concur in the opinion of Dr. Thos. J. Harris,[4] who said that "when we have failed to relieve it by attention to the nose and throat and the eustachian tube, together with such measures as may be necessarily addressed to the gastro-intestinal canal, the outlook for therapy is not encouraging." Continuing, he says, "But operations, even such as loosening adhesions in the middle ear, cutting the tensor tympani, etc., and especially the larger and more extensive, such as cutting the auditory nerve, even if they give temporary benefit, are to be undertaken with great deliberation and only as measures of last resort."

Diathermy—A satisfactory explanation of the reason for obtaining favorable results in chronic middle-ear catarrh through the application of diathermy to the pharyngeal ends of the tubes, and to other pathologic tissue in the naso-pharynx, cannot be made. There are several theories, any of which are as tenable as those ordinarily given to explain the action of therapeutic doses of polyvalent vaccines or of pluriglandular extracts, but since the end results will constitute our criteria for either, I shall not entertain any fears of results if any decide to give diathermy a thorough trial. Neiswanger,[5] in this connection, says, "All inflammations are due, as stated above, to excessive alkalinity of the part, not because the system contains an excess of alkali, but that we have an unequal distribution of probable normal alkalinity." This leads me to conclude that oxygen is set free at the point or area treated, and we know oxygen is an acid maker. Thus the surplus alkali may be neutralized.

3. Osborn: Principles of Therapeutics, p. 647.
4. Harris, Thos. H.: An. Otol., Rhin. and Lar., p. 199, March, 1922.
5. Neiswanger: Electro-Therapeutical Practice, p. 29.

E. C. Folkman[6] states:

"Medical diathermy is a therapeutic means of increasing the general body temperature. It is not a cure-all. In some cases it is the indicated remedy. In others it is a most excellent adjuvant or antecedent to other therapeutic measures, for we must ever remember that diathermy is heat and heat only. Heat is essential to life, to health, to function; nature cures no diseases, repairs no injuries, repulses no invading enemy without an increase in the production of heat. The increase is called fever or inflammation. Diathermy furnishes the needed heat for nature's processes without taxing the heat regulating forces. And it furnishes it when and where it is wanted."

I had been using high frequency current for more than four years, through vacuum tubes, to reduce inflammation in the naso-pharynx and at the orifices of the tubes, and thought that I was pioneering, when early in this year Dr. Harold Hays[7] in a published paper, said:

"After having tried every kind of medicament, we have come to the conclusion that the high frequency current, properly applied, does the most good. The ultraviolet ray may be applied by direct vacuum tubes, or one may use a modified naso-pharyngoscope which I have recently had made, into which can be fitted a fine electrode for fulguration. The vacuum tubes are made on the same lines as a eustachian catheter, and are wound with silk ribbon which is coated with shellac so that if they break in the nose no harm will be done. They are inserted in the orifice of the eustachian tube and the current is applied directly for from five to ten minutes. The results are very gratifying. After one to two treatments the tube remains open and stays open for a considerable length of time."

I have not tried fulguration to the affected naso-pharynx, according to Dr. Hays' method, but I have used the vacuum electrodes with gratifying results, first through the mouth, but for the last year through the nasal cavities, with a vacuum electrode I designed for the purpose.[8] In this electrode there is no possible way for a bare wire or contact point to come close to the patient, thereby causing a painful or shocking arc.

The element of circulation and nutrition is of great importance in treating catarrhal deafness, and when cell life and cell energy are impaired through occlusion of the eustachian tube due to a venous stasis, stimulation of the circulation through diathermy seems more rational than dilatation and inflation, though each measure may be necessary to achieve desired results.

Dr. Phillip Rice states that,[9] "What is required in every chronic case, besides the removal of the constitutional condition, is the creation of a local hyperemia of an active character. Such a state is followed by the absorption of waste deposited in the tissue, revitalization of the histologic elements, and the improvement in function; and such a state it is now easily possible for us to bring about." He uses an apparatus designed to produce pure concussions or pulsation of air, and he says that by "pure" is meant concussions that are free from pressure and suction. These concussions are carried through the eustachian catheter into the tube, and through this into the tympanic cavity.

I have not used this apparatus, but I shall investigate it and if it does all that Dr. Rice claims for it, its use should be alternated with diathermy, as I do with the bougies and inflation; but I would hesitate to apply this oto-concussor to the external auditory canal as advised by Dr. Rice. He claims that it results "in general redness of the drumhead and a sense of fullness in the ear, evidence of increased circulation." The active hyperemia sought by this method, I have obtained through the application of high frequency, as previously described, both to the pharyngeal end of the tubes and to the external auditory canal.

The advantage of the hyperemia treatment of the catarrhal deafness, is best appreciated when the pathology of chronic, non-suppurative otitis media is considered. It does prevent the deposit of connective tissue in and around the walls of the blood vessels, which in the course of time occurs in all cases; and the tendency of all connective tissue is to contract. The result of this contraction is to lessen the lumen of the vessels, and consequently to lessen the blood supply. Another result of the contraction of the proliferated connective tissue is to restrict the movements of the ossicles and to impair the functions of all the structures within the middle ear. As a result of lessened blood supply there is lessened nutrition. Following the lessened nutrition comes the retrograde changes called "atrophy". Clinically, the pathologic process may be divided into three stages, the simple, the hypertrophic and the atrophic. The line of demarkation between these stages is not sharply defined; one passes more or less gradually into the next. The simple stage includes all the change up to the beginning of proliferation of connective tissue. The hypertrophic stage includes proliferation and contraction until, as a result of the lessened nutrition, atrophy begins.

In connection with the assertion that hyperemia artificially produced is beneficial, I wish again to put the stamp of disapproval on the practice of employing various mechanical devices to the external canal for massage or oscillation of the drumhead.

6. Folkman, E. C.: Am. Phys., June, 1922.
7. Hays, Harold: Otol., Rhi. and Lar., December, 1921.
8. Made by the Rockefeller Scientific Research Laboratories.
9. Rice, Philip: Eye, Ear, Nose and Throat Monthly, April, 1822.

In conclusion, I would say:

(1) That a great deal of emphasis should be placed on the necessity of differentiating between the types of non-suppurative otitis media, and in applying treatment suited to each case.

(2) That no amount of local treatment will be of any permanent value until all lesions of the nasal cavities and naso-pharynx have been corrected.

(3) That the only difficulty in using nasal vacuum electrodes arises from the weight of the cord necessary to connect the electrode to the machine, and this cannot be obviated, as the current is of such a high frequency that it will not arc through anything smaller. (In this connection, I have designed a special nasal electrode with metal tip.[10])

(4) That eustachian bougies should be made of catgut, because they are porous, and with them the tubes may be thoroughly medicated.

(5) That vibratory massage with instruments which fit into and tightly close the meatus, should not be used, as much harm must ultimately result from the practice.

(6) That in medical diathermy a safe therapeutic measure is afforded otologist for the treatment of chronic middle-ear catarrh, and one which promises excellent results.

(7) That operations on the ossicles do not offer any hope for relief; at least, I do not believe many aurists can successfully do this operation.

(8) That no one or two remedies or therapeutic measures should be used routinely, to the exclusion of other measures of proven value, in treating non-suppurative otitis media.

ABSTRACT OF DISCUSSION.

Dr. Dero E. Seay, Dallas: Dr. Lanier speaks of the two main types of chronic middle ear catarrh, *viz*: the hypertrophic and hyperplastic, and very correctly states that they probably represent different stages of the same disease. I think it also proper to include chronic tubal catarrh under the head of middle ear affections, as it is in the tube that middle ear pathology often has its inception.

Dr. Lanier deserves a great deal of credit for advancing something new and original for the improvement in hearing, tinnitus, etc., in those cases of deafness which have been a source of concern to otologists for many years. He does not make any extravagant claims for his diathermy or high frequency treatment, but simply states that it has proven of value to him in conjunction with other well recognized procedures. It is probable that he is the first to institute this line of treatment. I have seen no mention of it in the literature, with the exception of the article by Dr. Harold Hays of New York, in recent months. I have had no experience with it, but if it will materially assist in improving the hearing and tinnitus, and in retarding the progress of the disease, it will be deserving of a high place in the therapy of middle ear catarrh.

It would have added greatly to the interest of the paper if case reports had been submitted, giving the results of the functional tests of hearing, with special reference to the relation of air and bone conduction, as well as tone perception with the various forks; also, showing age of the patients, stage of disease and mechanical cause of deafness, as well as the degree of deafness when treatment was begun, and the improvement noted as a result of the treatment. In the absence of case reports, I am going to take the liberty of requesting Dr. Lanier to tell us if the cases treated and materially improved were the hypertrophic variety in the early stage, and if not, what degree of improvement he noticed in those cases in which fibrosis was the predominant pathologic factor. I ask these questions because it is a well known fact that in cases where the lesion is in the tube only, improvement is rapid. The hypertrophic variety in the early stages responds more readily to treatment than if seen later in the disease. When fibrous connective tissue has become deposited in such excess as to produce stenosis of the tube, adhesions between the ossicles and adjacent tissues and marked deafness, treatment accomplishes very little.

Unfortunately, a large number of patients present themselves for treatment in this stage. In my experience of over twenty-five years, I have been unable to promise very much for their relief. The tendency is for a gradual increase in the deafness, and in the end an associated nerve lesion may dominate the picture.

Just a word in regard to massage. The essayist condemns all forms of massage with ear pieces that completely close the external canal. The point of completely closing the canal is well taken, because when we remember that the maximum excursions of each ossicle in response to the movement of the drum, according to Politzer and Helmholtz, is the fraction of a millimeter, it is easy to understand how rough and careless manipulation of this delicate mechanism could produce much harm. Massage, like inflation, has its indications and its contraindications, and when carefully and judiciously applied, with due regard to the pathologic condition under treatment, it is an agent of wonderful value, especially for the relief of tinnitus. By no means should every middle ear involvement be routinely inflated and massaged.

I have had the Rice oto-concussor for the last few months, but have not used it sufficiently to tabulate any reports of value. I cannot say that I am so far pleased with results. It produces such a fullness in the head that the patient invariably complains that the hearing immediately following the treatment is much worse. As psychology plays an important role in the deafened patient, it is reasonable to presume that its use loses a great part of its therapeutic value by virtue of the mental depression produced.

The other lines of treatment suggested by the essayist are in accordance with well recognized principles. I am in accord with him in practically all of his conclusions. I intend to try out diathermy according to his method.

Dr. Lanier (closing): In answer to Dr. Seay as to which variety of cases improved most in my hands, will say that I have gotten the best results in the hypertrophic cases, but I have had many cases improve in the hyperplastic stage under the treatment I mentioned. I have treated others without results, until I started to use high frequency five years ago. Those cases I am now not able to discharge; they have been benefited. I have been fortunate in keeping them from getting any worse. If we can do that in these hyperplastic cases, we

10. Made by the Wappler Electric Co., New York.

are doing a great deal. I am willing to concur in the statement of Dr. Seay, that we have trouble where the lesion enters the later stages. I believe that must ultimately come, but I have noticed, particularly in those hyperplastic cases, that if they stay away very long without the use of diathermy, the tubes become sealed up as firmly as you can seal a bottle with a cork, and when you attempt to use the probe and inflate, sometimes it is like pushing a probe against a wall of granite.

If you remove the obstruction and inflate, they are immediately benefited; that is, they get a temporary benefit and they are always willing to come back for that one thing. I have been able to get a measure of permanent benefit since I have been using diathermy. I don't know whether it is altogether regeneration or not, but the patient gets better and I make more progress than I do with bougie and inflation treatment alone. I do want you to try the catgut probes. Dr. Kohler makes them in his office in Minneapolis. They are dipped in nitrate of silver. The silver crystallizes on the end of the probe, and can be carried into the eustachian tubes, thereby getting results hard to get with any other probe, either whalebone or celluloid.

SOME INTERESTING MASTOID CASES.*

BY

J. M. WOODSON, M. D.,

TEMPLE, TEXAS.

When invited to make a contribution to the scientific program of this meeting, I agreed to present a series of, to me, very interesting mastoid cases.

Case No. 1.—A lady school teacher, 35 years of age, gave a history of measles when two months old, accompanied by right acute otitis media, from which she apparently recovered. However, in a short time she became fretful, had high temperature and the right ear began to discharge. This continued for five or six weeks and then ceased. When three years old, she began to suffer with the same ear, but at this time there was an enlargement behind the ear and the physician lanced it. The ear continued to discharge occasionally until 1910. Two years later the patient had a return of the characteristic throbbing pain in the ear, but no discharge, no tenderness over the mastoid, and the opinion was that she was suffering from neuralgia. The pain finally ceased. In 1914 she had another siege of pain, extending over a period of weeks, not accompanied by discharge. The pain, as before, subsided and the patient was again in a normal condition, so far as ear symptoms were concerned. In June, 1916, there was a return of the same type of pain, throbbing and pulsating in the ear, and the pain was so acute that the patient could not tolerate even the pressure of a hat on her head. The attending specialist diagnosed the case as neuritis, and the patient was referred to the family physician and dentist. This time, as before, the pain gradually became less and there was a period of intermission.

In August, 1916, the pain was worse than ever, so severe that the patient was in a desperate state of mind. There was a constant throbbing, pulsating pain, which kept her from sleeping, except when under the influence of drugs. The temperature was from 99° to 100° F. each day, and her head felt like it would burst at times, with the pain behind her eyes.

On September 14, 1916, the patient came under my care, at which time she was suffering intensely and was totally deaf in the right ear. The *x*-ray showed evidence of chronic mastoiditis, and on September 18, a complete mastoidectomy was attempted. The cortex was very dense and very few cells were found in the mastoid process. Islands of healthy bone throughout the mastoid were found, and a large peri-sinus abscess was uncovered about ten millimeters below and behind the floor of the auditory canal. The patient received relief from pain but the wound refused to heal, and in November, 1916, the wound was still draining, was slightly painful, but the patient refused further operative interference.

The patient returned, February 23, 1922, stating she had had two severe hemorrhages from the wound during the past two weeks. February 24 the wound was reopened and necrotic bone was found. A small sequestrum was removed from the attic, exposing the dura, and a plastic flap made to close the wound. In spite of the fact that the wound appeared to be free of diseased tissues at the completion of the operation, the wound refused to heal and the discharge continued through a small sinus, and the patient continued to have pain and fever. She was advised that further operative interference would be necessary.

On account of the danger of injury to the facial nerve under a general anesthetic, local anesthesia was used in the operation, April 26, 1922. All the granulating tissue was removed and the wound thoroughly dried. A dark spot on the floor and anterior surface of the wound was observed, and when this spot was pressed upon with a small probe, the patient screamed with pain. This area was packed with gauze, impregnated with adrenalin and powdered cocain, and allowed to remain several minutes when the anesthesia was complete. Using a sharp curette, the dark area was removed and the facial nerve exposed for three-eighths of an inch. Necrotic bone over the anterior wall of the lateral sinus was also removed, until sound bone was in evidence. Following this operation the patient had facial paralysis, which I was glad to assure her was only of a temporary nature, as the technique employed at the time of operation had caused only slight trauma of the nerve and had not permanently injured it. The paralysis soon improved and in two weeks had entirely disappeared.

There was perfect healing following this operation, and in a letter received May 1, 1923, the patient states that she has had no recurrence of pain or any symptoms whatever in connection with the ear, and considers she is absolutely well.

Case No. 2.—A school boy, 19 years of age, came to the office July 16, 1922, with acute suppurative otitis media of the left ear. He said that as a result of going in swimming he had developed a pain in the left ear, which had begun to discharge a few days previous to his coming to the office. There was no fever, the pain was not a disturbing factor; there was no loss of sleep, nor tenderness over the mastoid, and the drum membrane was only slightly bulging with no sagging of the posterior superior canal.

There was no reason to suspect that this case would develop any serious or interesting features, any more than the fact that any discharging ear is capable at any time of springing a surprise on both the patient and the physician, by the development of serious symptoms.

July 26, 1922, the patient was disturbed by pain during the night and took aspirin for relief, for the first time. On July 27 there was a sagging of the posterior superior canal. The ear was discharging as on the previous day, the temperature was 99° F.,

*Read before the Section on Ophthalmology, Otology, Rhinology and Laryngology, State Medical Association of Texas, Fort Worth, May 8, 1923.

pulse 80, and there was slight tenderness over the mastoid, on pressure. *X*-ray revealed evidence of acute mastoiditis, and a complete mastoidectomy was done. Nothing eventful or unusual happened at the time of the operation. The wound was closed with a small iodoform drain in the tip, and the patient put to bed without any unusual concern.

On the same morning, another patient was operated on for acute glaucoma of the left eye, and in the afternoon, when I made my visit at the hospital, the nurse told me that the glaucoma case had developed severe pain in the good eye and the mastoid patient had a temperature of 105° F. I at once felt that I had all the trouble I needed for one day. Upon visiting the patient, I found the high temperature was the only symptom that gave warning of what was to follow. There was no pain. The patient was comparatively comfortable and looked to be in good condition. The temperature continued high, from 104° to 105° F. during the night, and at no time was his blood count higher than 19,850 white cells. The next morning the dressing was soaked with bloody serum. I had taken a specimen from the wound at the time of the operation, as is my custom, and the laboratory report showed hemolytic streptococcus. All stitches were removed and a continuous Dakin irrigation begun. The patient's temperature began to subside about twelve hours after the Dakin irrigation was begun, and the following day his temperature was from 100° to 102° F., and it continued low for five days.

On August 4, the patient had a rigor, followed by a temperature of 105° F. He continued to have typical septic temperature, and from one to three rigors a day. August 11, the left lateral sinus was drained and the left internal jugular ligated. His temperature declined the following day and he appeared to be improving until the 16th, at which time there was a recurrence of the rigors and high temperature, the reflexes exaggerated, and the patient was very restless and unable to sleep. He developed acute nephritis and it looked as if he would certainly die. The spinal puncture was negative and the *x*-ray showed a complete mastoidectomy.

He had a blood transfusion August 18, and again on the 21st. He showed improvement after each transfusion, and continued to make slow improvement. He was dismissed September 14, with normal hearing in the left ear and otherwise well, except for the usual amount of weakness following such a severe illness. I saw the patient a few days ago and he is in better health than he has been for years.

Case No. 3.—A man, 39 years old, was operated upon September 1, 1921, a complete left mastoidectomy being done. He recovered satisfactorily and hearing was normal.

March 13, 1923, the patient returned with acute otitis media in the right ear. The drum was incised and a free discharge of pus gave relief from pain, but the sagging continued in the deep posterior superior canal. All landmarks of the middle ear were completely obscured, but there was no tenderness over the mastoid. The ear was discharging very freely, the canal filling up in a very short time after being completely cleansed.

The *x*-ray gave evidence of mastoiditis, and the patient was advised that a mastoidectomy would be necessary. He accepted the advice reluctantly, and on March 22, a complete mastoidectomy was attempted. Pus was found at the first stroke of the chisel, and the entire cellular structure was involved. Nothing of unusual interest was observed at the time of the operation, except the complete involvement of the cellular structures with such slight symptoms.

The wound was dressed with an iodoform wick in the tip. The patient did well after the operation and until March 28, when he began to complain of severe headache. There was free discharge from the mastoid wound. The wound was reopened and continuous Dakin begun, but without relief.

There were septic symptoms the next day—rigor, high temperature, severe pain in the head, and exaggerated reflexes. The *x*-ray showed evidence of some remaining posterior superior mastoid cells, involving the zygoma. On March 30, all remaining cells were removed, the dura exposed in the attic and an open Dakin dressing applied.

This patient would doubtless have died without the second operation, and the question in the case at the time of the recurrence of his septic symptoms was whether or not the trouble was to be looked for as an involvement of the lateral sinus or in the mastoid wound, but at the time of operation the lateral sinus was freed of its boney covering for the distance of one inch, in order to make it easily accessible for surgical interference, in the event the patient did not receive relief. However, he made an uneventful recovery.

Case No. 4.—A baker, 48 years old, who had been well all his life, during the night of December 22, 1922, developed an earache in the left ear, and on his own initiative poured hot vaseline in the ear, which gave relief. He did not consider the ear condition sufficiently serious to see a doctor, and he continued his usual work. He experienced more or less headache about January 1, when the headache became very severe, involving the left side of the head, extending over the left side of face and down the neck, with a tender spot about two inches back of the auditory canal. He was given a thorough physical examination, with negative results.

I saw him first January 29, 1923, at which time he had a bulging drum, completely obscuring the landmarks of the middle ear; total deafness in the left ear; a tender spot about the size of a quarter of a dollar, two inches posterior to the auditory canal; a continuous pumping noise in the left ear, and severe pain over the left side of the head and face, the scalp even being tender, to the extent that passing the hand over the hair gave pain. The *x*-ray showed a definite left mastoiditis. The white cell count was 13,350, with 76 per cent polys, and the patient was operated upon the next day.

The entire mastoid process was found broken down, and a large peri-sinus abscess extended below the mastoid tip for a distance of about two inches. The wound was given an open dressing, using Dakin solution, one ounce every two hours.

The patient had no unfavorable symptoms following the operation, was free of pain the next day and said he felt well enough to get up. The Dakin irrigations were continued for two weeks, at which time the cavity formed by the peri-sinus abscess was closed, the Dakin tubes removed, and ordinary dressing applied. In a few days he was dismissed from the hospital.

The absolute relief from pain and other symptoms, the restoration of hearing which followed the operation and the splendid physical condition of the patient, was good evidence that he would make a complete recovery.

He continued to do well until the night of March 1, when he was restless and could not sleep. There was a slight return of the throbbing pain, extending over the left temple and over the parietal region. The scalp was sensitive and there had been a slight chilly sensation during the night, but apparently no fever followed. He took aspirin for relief, and the next day the pain was more or less constant and continuous. He had no rest except when he was taking aspirin or something to give him relief from the pain. The pain was of the same type as before

the operation, extending over the distribution of the fifth nerve. He looked depressed, but as we could find no physical evidence, the *x*-ray revealed a complete mastoidectomy, and there were no septic symptoms such as chills, fever or accelerated pulse rate, we were inclined to believe the patient was suffering from septic neuritis, as a sequel to mastoiditis.

On March 22, a spinal puncture was made and 10 c.c. of clear fluid withdrawn. There was no increased pressure, no cloudiness of fluid, and the cell count was 6.

On March 25, the patient had a chill and a rise of temperature to 102° F., and he developed stiffness of the neck. Another spinal puncture was made, approximately 10 c.c. of very cloudy, turbulent fluid withdrawn under 45 m.m. pressure, with a cell count of 5,600. The patient at this time evidently had cerebrospinal meningitis. He became unconscious on this date, grew rapidly worse and died March 28.

Autopsy showed the following findings: Diffuse, acute encephalitis; acute pachymeningitis; apex of the temporal bone necrotic, with no communicating tract between the apex of the temporal bone and the mastoid wound.

Case No. 5.—The patient, male, 21 years old, was first seen on March 14, 1923. He had worked on a farm all of his life. His general health was good. During the latter part of December, 1922, he developed earache in the left ear and received treatment from his home doctor. In about seven days the ear began to discharge, and it had been discharging continually since. The discharge was not especially offensive. The pain continued for about two weeks, after which time a swelling developed behind the ear. He has been growing worse since that time.

The ear was protruding forward and downward. There was a large, brawny induration behind, above and in front of the ear, but no evidence of fluctuation on pressure. My first impression was that it was a neglected case of mastoiditis, and it looked as if nothing but an inspection and the history were necessary to make the diagnosis. Further investigation proved such not to be the case. The character of the swelling and induration, the absence of pain, and the complete occlusion of the auditory canal, brought elements of doubt into the diagnosis. All physical and laboratory findings were negative except the *x*-ray, which showed the left mastoid cells definitely hazy, the upper cells having been completely destroyed. The increase in density throughout the mastoid indicated a left mastoiditis. With this information the patient was operated upon.

It was my expectation to find an abundance of pus, but to my surprise there was an unusual amount of hemorrhage and no pus. The cortex was exposed. The bone was of a dark color and quite soft, so that with an ordinary curette it was cut away, with very little resistance. It really felt as if one were cutting cheese. The antrum was opened but no pus found. There was every appearance of malignancy. A frozen section brought the report of osteosarcoma. Radium was applied and the patient was given an open dressing and sent to his room.

I told the pathologist that the case was of such unusual interest that I was exceedingly anxious to have all the information he could give me. Reports from the fixed section later were, "Acute inflammatory," which was confirmed by several laboratories.

Notwithstanding the laboratory reports, I am not willing to surrender my opinion, as the case looked to be one of malignancy. If it should prove to be an acute inflammatory condition, it is certainly of as much interest on account of the rare type, as it would be if it were malignant. I hope to give more information in regard to this case at some future date.

ABSTRACT OF DISCUSSION.

Dr. E. R. Carpenter, Dallas: It is true that fewer mastoid operations are done now than twenty years ago. In the first place, the general practitioner and specialist have learned the great value of paracentesis, which in itself stops the inflammatory process in many cases, and specialists are called earlier in the cases, and proper treatment prevents the late complications in most cases. Secondly, specialists in general have learned that the radical mastoid operation is one of the most difficult of all operations, and should not be undertaken by any one who has not had exceptional operative training in this work.

In my own work, I have not had a chronic middle ear disease or a chronic mastoiditis to develop for several years. I attribute this to the fact that in my private cases as soon as a paracentesis is indicated, or if spontaneous rupture of the drum has recently occurred, I do a paracentesis, then apply negative suction in such a way that from a dram to a half ounce of bloody secretion is removed. This immediately relieves the engorged condition, the stasis, which would require several days or weeks to be removed if left to natural processes. This suction is repeated several times a day as long as there is fluid to be removed. Occasionally a condition is met with where the mastoid cells communicate with the antrum by a very small opening which is easily occluded, and it may not be possible to drain the mastoid in such cases. This condition is easily recognized, as but little fluid can be removed by suction and the patient is not relieved. Acute mastoid operations are done only in such cases. All others clear up by internal draining and the chronic process is prevented. My ear work is one hundred per cent better since I have been using this method, as described in *The Laryngoscope* of November, 1922.

Dr. J. M. Woodson (closing): In the last case reported in my paper, a suspicion of malignancy is strongly supported by the fact that the patient has lost twenty-five pounds in weight in the last three months.

In the case of the school teacher, thirty-five years of age, a very interesting history is given extending from childhood up to the time of her last operation. I feel quite sure that this patient, as well as the operator, was saved the embarrassment of facial paralysis on account of the last operation having been performed under local anesthesia.

I agree with Dr. Carpenter in regard to cleansing a suppurating ear by means of suction, but if there is definite evidence of mastoid involvement, I feel very much safer if the mastoid is drained in a surgical way, and I am also convinced that the patient has a better chance for restoration of the function and a dry ear, if they have the advantage of perfect drainage and too much time is not lost in attempting to restore them by other means.

I have never seen a case of mastoiditis that was operated too early. On the contrary, we have a perfect right to expect that the early operated cases will make perfect and complete recoveries, whereas, if unnecessary delay is allowed, it is sometimes necessary to resort to a radical mastoidectomy with more or less uncertain results.

I recently had a case of a little child who came from a town in West Texas, giving a history of acute otitis media. The child had been crying with pain for about two weeks. The drum membrane was bulging and he was very sensitive over the mastoid area. The child was carrying a daily temperature. A free incision into the drum membrane was followed by a discharge of pus which gave great relief to the patient. The tenderness, however, over the mastoid

continued. I advised the parents that the safest and surest way for a perfect recovery would be a mastoidectomy. They conceived the idea that I was anxious to operate on the child quite unnecessarily and sought advice elsewhere. I have kept up with this case and I find that that child is still having daily temperature, tenderness over the mastoid and has a discharging ear after a period of three months. This case will eventually be one of chronic suppurative otitis media, which in all probability could have been prevented if the mastoid had had early and free drainage.

I also want to recommend as after-treatment of mastoid cases, when the wound is very foul, that a continuous Dakin drainage be employed. I have had a few cases make very rapid improvement under this treatment.

AN INTERESTING MASTOID CASE.*

BY

FRANK D. BOYD, M. D.,
FORT WORTH, TEXAS.

Mastoid operations, regardless of how simple they may appear, should always be undertaken with the utmost care. A painstaking examination should always be made of the heart, lungs, blood and urine. We should thoroughly know the general condition of our patient prior to the operation. It is best to withhold prognosis for a period of several days.

The simplest operation on the mastoid may prove to be most serious. We can never tell when complications may arise. My mastoid work has covered a period of more than 30 years, and I can say that there is no operation in the realm of surgery that should be so well guarded. The case I am presenting is of special interest on account of the complications.

Tom D., age 17, first consulted me October 23, 1922, with a pain in the right ear, which had lasted for over a month. He had been under the care of a doctor at home, and would get relief but the pain would return. In the right ear, the upper quadrant of the drumhead was slightly bulging, and there was tenderness on pressure, but no tenderness about the mastoid. There had been fever, but not high. The tonsils and adenoids were infected. He had been subject to recurrent tonsillitis practically all of his life. The personal and family history was negative, and the heart, lungs, urine and blood count at that time were all normal.

On the following day, I made an internal Wilde's incision of the drumhead, going far into the attic; at the same time, I removed the tonsils and adenoids. The patient made an uninterrupted recovery, returning home in a few days. The ear had discharged freely and he was much relieved.

About one month later, the patient returned. He was suffering intense pain in the right ear and the whole right side of the head. There was great tenderness over the mastoid, with redness and every indication of an acute mastoiditis. The *x*-ray showed the whole of the mastoid filled with pus. The blood count was 19,500 white cells, with about 75 per cent polys. The urine was normal.

*Read before the Section on Ophthalmology, Otology, Rhinology and Laryngology, State Medical Association of Texas, Fort Worth, May 8, 1923.

I did a simple mastoid operation, closing the wound with a blood clot. In about two weeks the wound had healed beautifully, and I pronounced the patient well. The night prior to the morning he was to leave for home, I was called and found him with one of the hardest rigors I ever saw, which lasted about thirty minutes, the fever rising to 106° F. A profuse perspiration soon followed, and the temperature dropped to normal. Dr. J. D. Covert was called, and a swelling in the right knee was discovered, which was intensely painful on pressure. The rigors were repeated every few hours, the temperature rising to 105° to 106° F., to be followed by a profuse sweat. The pulse was 120, and the blood count 26,000 whites, with 82 per cent polys. Dr. Covert reported that blood culture showed a non-haemolytic, two chain streptococcus. The chills subsided in five days and the temperature gradually returned to normal. The temperature maintained the curve of sepsis until the patient was entirely clear of fever. The diagnosis was, two chain streptococcus infection.

The patient has remained clear of fever for the last four months. However, a recent blood count showed a high percentage of small neuro-nuclear lymphocytes. Otherwise the patient is normal.

I am convinced that the infection originated in the tonsils.

ABSTRACT OF DISCUSSION.

Dr. Chas. P. Schenck, Fort Worth: While I was in the Medical Corps of the Army, a young man came to the hospital with a streptococcic otitis media. After daily treatment for a week or ten days, the suppuration ceased, the drum closed and returned to normal, and the patient was discharged. About a week later he returned, a very sick boy, with a septic temperature and chills and sweats. Despite the fact that a prompt diagnosis of sinus thrombosis was made, and confirmed by immediate operation on the mastoid and sinus and vein, the patient died a few days later.

On necropsy, we found pus in both pleural cavities, and multiple abscesses in the lungs and other organs, showing a general distribution of pus throughout the bloodstream.

Another interesting case of this sort, was that of a four-year-old boy who had an earache of moderate severity for three or four days, after which the mastoid region suddenly swelled greatly and became sensitive to pressure. Investigation showed the ear drum only moderately red, light reflex gone and landmarks obscured, but the drum not ruptured, nor even perceptibly bulging. A diagnosis of mastoiditis with subperiosteal abscess was confirmed by immediate operation, and he made an uneventful recovery in three or four weeks. The special feature of interest in this case was that the mastoid cortex, which ruptured, showed less resistance to the pressure of retained pus than the ear drum, which did not rupture—a condition I have never encountered, with this one exception.

Dr. J. H. Foster, Houston: It has been my practice when such symptoms occur after a mastoid operation, and any other cause cannot be found, to open up and investigate the lateral sinus. I think it not improbable that it was affected in Dr. Boyd's case. The fact that it cleared up spontaneously is no proof that a thrombus did not form. I remember when in the Manhattan Eye and Ear Hospital years ago, seeing a sinus opened some months after such symptoms had occurred, in which was found a completely organized white mass, taking the place of the sinus. Nature had taken care of the situation. However, I think it dangerous to rely on nature in such a case.

THE TONSIL AS A SOURCE OF SYSTEMIC INFECTION AND TOXEMIA.*

BY

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The clinical anatomy of the tonsil must be very carefully considered, as it explains the reason why the tonsil is the source of systemic infection and intoxication. I shall in this paper call attention to the crypts of the tonsil and their relation to the lymphatics, to the plica supratonsillaris, and to the anterior and posterior pillars of the tonsil.

The crypts of the tonsil bear a very close resemblance to the crypts of Leiberkhun in the Pyer's patches of the small intestines; in fact, the tonsil in structure, if not in function, has its analogue in these glands. There are about twenty crypts in the tonsil. They are tubular structures, and extend from the inner surface of the tonsil straight outward to the capsule, except those in the supratonsillar fossa, about five in number, which extend downward and outward. They are the invaginated epethelial lining of the surface of the tonsil which has lost its sub-epithelial connective tissue. This permits the epithelial cells to come in direct contact with the lymphatic structures. This is a very weak barrier against infection, in that the cells are not more than three deep, and in some places the lining is so thin that only one cell thickness intervenes between the lymphatic vessels and the bacteria-laden contents of the crypts, and as the crypts approach the parenchyma of the tonsil the epithelial cells are separated by lymphocytes, bringing protection to an irreducible minimum.

The lymphatics of the tonsil have their beginning in the tonsillar structure, and drain into the cervical chain of glands under the sterno-mastoid muscle, and from there to the thoracic glands and the thoracic duct. Thus an almost open gateway exists from the external world by way of the lymphatics of the tonsil to the great lymph circulation of the body.

The next important structure to be considered in the study of the clinical anatomy of the tonsil, is the plica supratonsillaris, which is the membrane that drapes down over the upper and inner surface of the tonsil, and sometimes leaves a space between the upper part of the tonsil and the sinus tonsillaris, known as the supratonsillar fossa. The part of the tonsil included in this space usually contains about four to five crypts. This membrane may extend some distance over the inner surface of the tonsil, so that in the act of swallowing, food and bacteria may be forced into the tonsillar crypts, or food may be retained in the supratonsillar fossa.

When this membrane, because of inflammatory action, becomes adherent to the inner surface of the tonsil, accumulated material having no means of escape, decompose and the resultant toxins are absorbed into the system. This constitutes the toxic tonsil, and it is the most common form met. Any acute inflammatory condition of the fauces will cause adherence of the plica supratonsillaris to the inner surface of the tonsil, with resultant accumulation of crypt metabolism. This accumulation of cellular debris stretches and weakens the walls of the crypts to bacterial invasion, and as the thin, veil-like structure of the plica and is permeable to bacteria, it is plain that the toxic tonsil may easily become the pathogenic tonsil and be the source of a systemic infection without any pronounced local manifestation.

The accumulation of the secretion of the crypts under the adherent plica bears a very close resemblance to the accumulation of smegma under the adherent prepuce of the glands penis, and the absorption of the toxins from the decomposing matter under the adherent plica-tonsillaris has a very similar action on the nervous system of the patient, in that it produces extreme nervousness, malaise, chorea and under-nutrition. When there is a chronic infection of this accumulated material by *Streptococcus viridans* or the staphylococci, there are pains in the shoulders, chest and joints; and where there is a lighting up of an acute infection, there is rheumatic fever, endocarditis, streptococcemia and pyemia.

The anterior and posterior pillars of the tonsil may become adherent to the anterior and posterior, and sometimes inner surface of the tonsil, occluding the opening of the follicles, and upon contracting draw the tonsil upward and outward, producing the submerged tonsil.

When we take into consideration the character of the epithelium lining the tonsillar crypts, particularly its extreme thinness, the proximity of the contents of the crypts to the mouths of the lymphatic vessels, it would seem that the tonsil is, indeed, the ideal bacterial incubator and distributer. When we further consider that the tonsil is being regularly massaged by the surrounding muscles in the act of deglutition, and are alternately thrust out into a torrent of bacteria-laden matter and returned to a membranous sheath that tends to retain as well as incubate disease germs, we are forced to conclude that the normal tonsil is not without its dangers.

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The pathologic tonsil, with its adherent plica supratonsillaris and anterior and posterior pillars, its dilated and disorganized crypt walls and the direct contact of the lymph spaces with the pathologic contents of the crypts, offers ideal avenues of approach for infection, and it is not surprising that general malaise, under-nutrition, rheumatism, myalgia, gangrene of the lungs and tuberculosis, are thus caused.

It is a matter of common knowledge that we can not have a healthy human organism with a nidus of pus in the body, and if the presence of pus around and under the teeth will bring about high blood pressure, it is equally probable that the septic or toxic tonsil will bring on, in the course of time, arteriosclerosis, either directly by absorption of toxins through the lymphatics, or by septic matter passing into the stomach and so interfering with the processes of digestion as to eventuate in the chronic gastric and intestinal disturbances that appear to be important etiological factors in arteriosclerosis.

It has been claimed, and not without reason, that a large percentage of the cases of appendicitis are due to septic tonsils; and I have painful, personal knowledge, that septicemia and pyemia may occur from an invasion of the lymph channels by the *Streptococcus viridans,* through the portal of the tonsils.

The toxic or pathogenic tonsil may be very deceiving. An apparently innocent and retiring tonsil may be highly toxic or pathogenic. If the anterior surface of the anterior pillar shows a crescent-shaped area of redness in the mucous membrane, there are diseased tonsils present. If there exudes a white matter on pressure of the tonsil, from the mouths of the crypts, or if whitish yellow spots show under the mucous membrane covering the tonsil, the tonsil is toxic. If the plica supratonsillaris and the anterior pillar are adherent to the upper and inner surface of the tonsil, there is a toxic tonsil that may become septic at any time. If, on manipulation with a hook, there exudes pus from the fissures or crypts, or the lymphatic glands below the angle of the jaw and those of the cervical chain are enlarged, there is an infected tonsil. The adherence of the plica supratonsillaris and the anterior and posterior pillars, may so pull the tonsil outward and upward that upon first glance there appears to be no tonsil. Thorough search will frequently reveal the presence of a dangerous tonsil. I wish, in this connection, to urge a very careful examination of the tonsil and the surrounding structures, especially the lymphatic glands in the maxillary and cervical chain, before placing the blame on the tonsil. It is to be deplored that the removal of the tonsil has become a fad with some, and with others a panacea. It is important to know how to remove a tonsil, but it is very, very important, to know when to remove a tonsil.

The only treatment that is justified by the clinical anatomy and pathology of the tonsil, and by the experience of older operators, is the complete or radical removal of the tonsil with its capsule intact, known as tonsillectomy. The removal of the tonsil by enucleation is a major operation, and should be undertaken only after careful examination and, if necessary, preparation of the patient. If the general condition of the patient is much below par, it should be brought up as much as possible. The coagulation time of the blood should be carefully ascertained, both in children and adults, and if the time is around eight minutes the patient should be placed on calcium chloride or lactate for a week or ten days, until the coagulation time comes down to about five minutes. A rapid coagulation of the blood gives assurance against hemorrhage, and it is a safeguard against infection.

In view of the fact that the diseased tonsil is as dangerous to the integrity of the human organism as the diseased appendix, and in view of the fact that the complete enucleation of the tonsil will permanently remove the danger, it should be urged as the only procedure in the treatment of the diseased tonsil.

ABSTRACT OF DISCUSSION.

Dr. Leslie Moore, Dallas: Universal tonsillectomy is to be condemned quite as much as universal appendectomy. Definite indications must exist and the medical man should determine these indications rather than the specialist.

I do not send children to the throat specialist to see if their tonsils need removing. I determine that myself and send them with instructions to have the tonsils removed.

Dr. A. A. Brown, San Antonio: The general practitioner is, indeed, the one who should say when tonsils should be removed. He knows the symptomatology of the case and the idiosyncracies—in fact, the patient to him is an open book. The specialist tells the patient that tonsillectomy is a slight operation, but attempts to convey to the practitioner an idea of its gravity and difficulty. I believe it is a serious operation. It should be classed with the major operations, and should be undertaken with this idea in mind, and also with a definite object of what is to be attained, and not empirically, as the old shotgun prescription.

Dr. Will S. Horn, Fort Worth: When to condemn a tonsil and when to take it out, is the important question. Local signs are of secondary importance. Constitutional symptoms are the chief indications, and when any patient at any age has any constitutional disturbance that may be caused by the tonsils, the tonsils should be removed. Promiscuous tonsillectomy should be condemned, no less so than too much conservatism and the leaving of tonsils that are a suspected focus of infection.

Dr. J. F. Perkins, Dallas: A study of the tonsil as a cause of malnutrition in children is very important. There is a proper time to advise tonsillectomy. Children always lose weight after tonsillectomy, and it requires a long time to regain what has been lost. Contrary to general opinion, tonsillectomy should be considered a major operation.

Dr. C. L. Maxwell, Myra: There should be a differentiation between the physiological and the pathological tonsil. Nothing has been said to condemn the physiological tonsil. After a child reaches the age of three, the tonsil becomes pathological, as a rule.

Dr. W. A. Wood, Waco: "Whither are we drifting? I can remember the time when, if anything was wrong with the rectum—piles or what not—the slogan was, dilate the rectum. Later, in rheumatism or any infection, enucleate the tonsils. If anything was wrong with a woman's womb, bleeding or what not, curette. Now we are held culpable if we mutilate the endometrium of the womb for scarcely any cause. Now the *x*-ray man pictures the teeth and finds that all high blood pressure is due to mouth infection and out comes our teeth.

When Luther Burbank, who in his youth was ambitious to be a great actor, went to his friend Richard Mansfield, the great actor, and asked him how he could best further his ambitions, he was told to go home and learn something of everything and everything of some one thing. Then when he came in contact with celebrities he could speak their language and not be abashed and tongue-tied. This is the day of specialists, and we had as well admit it. Call general practitioners distributing agents as you may, I believe in specializing.

Dr. J. B. Shannon, Fort Worth: The general practitioner should be more careful in making diagnostic studies of his patients before recommending tonsillectomy. I think there is too much tendency in the medical profession to take out tonsils just because they are enlarged. Tonsils are often removed when they are not giving any trouble. In my opinion the tonsils have an internal secretion that is needed for growth and development. I don't think they should be removed if the enlargement is all the symptom that is giving trouble. The general practitioner is the one who should find if there is any trouble attributable to the tonsils.

Dr. I. L. Van Zandt, Fort Worth: Having read that the Indians of Florida had used the berries of the saw palmetto for coughs and for aphrodisiac effect, saying, "Make squaw fat, heap papoose;" having also read reports of marked benefit in enlarged prostate, I considered the similarity of structure of the tonsil and the prostate, and determined to give saw palmetto a test in children having the sore throat habit.

Tonsillectomy, though done to some extent, had not at that time become fashionable. The test was made the following winter. In Robt. P. the effect was ideal. Whereas during the former winter he had many visits and cauterizations, during this winter he had none, nor did he have a sore throat for about five years. Robt. D., who had very large tonsils, was not so fortunate, though his case was mitigated. In the following years I used saw palmetto in many cases of irritation of the throat of various grades, often with marked relief and marked improvement in the general condition and sometimes rapid growth setting up.

The benefit in the chronic cases requires long treatment, and there comes the rub. Now that people are educated to "operations" it is easier to have the tonsils taken out than to take saw palmetto from from three to six months. However, I generally recommend tonsillectomy.

RECENT OBSERVATIONS ON SURGERY VERSUS RADIO-THERAPY IN DISEASED TONSILS.*

BY

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In the past six months I have visited about twenty of the large ear, nose and throat clinics in the east, and have noted carefully their various methods of dealing with chronically diseased tonsils, their postoperative management and the ultimate results in cases that were kept under observation. During the past few years I have served in the eye, ear, nose and throat dispensary of Baylor and Parkland hospitals and the Presbyterian clinic, where an abundance of material for the study of diseased tonsils and their many complications, was readily accessible.

In my general practice, twenty-five years ago, it was then as it is now, the popular idea with the medical profession that the family physician could with impunity remove the tonsils of any member of the family, and that no after care was needed. It was considered a very minor, trivial operation, which did not demand the services of a surgeon or specialist. On the other hand, we have long since recognized tonsillectomy as a major surgical procedure, demanding great precaution and capability, and care by one specially trained in this field of work. After inspecting many mutilated, post-operated throats, and reviewing the literature of serious postoperative hemorrhages, lung abscesses, infections of the throat, etc., following in the trail of all manner of *near* surgeons who class the enucleation of tonsils as mere child's play, I am convinced that the profession generally is waking up to the gravity of this operation.

The post-operative, disappointed patients who visit the various clinics and our offices daily, complaining of pain in the throat, difficulty in swallowing or imperfect phonation, are no doubt suffering from faulty surgery by the general practitioner, the pediatrician, the near surgeon or the careless laryngologist, who have regarded the operation as belonging to the minor class, and have in many instances removed the anterior or posterior pillars, a part of the soft palate or the uvula, and in some cases, roots, branches and all. In a few months these throats present masses of adhesions, and we view them with amazement. We wonder how such a harmless looking instrument as a Sluder or a snare, can so completely wreck a throat in the brief period

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of a few minutes. It has been proven that with a competent operator, 99 per cent of tonsillectomies will present uniform, perfect results.

The medical profession has long since realized that the tonsils as foci of infection, are true culprits. This has been amply substantiated at the bedside and in the laboratory. We frequently find the smaller, submerged varieties the most dangerous. We are all familiar with the train of symptoms from prolonged toxemia, produced by infected, submerged tonsils, such as neuritis, thyroid enlargement, various cardiac troubles and other systemic infections too numerous to enumerate. Slitting the crypts, curettment, aspiration and the various chemical applications to these chronic tonsils, is an absolute waste of time. A clean, complete tonsillectomy is the only logical course to pursue in their treatment.

Diseased tonsils, like abscessed teeth, demand radical remedies. No necessary function of the human body is in any wise interfered with by the removal of diseased tonsils. We seal the crypts, produce a fibrosis and leave masses of scar tissue, by doing a tonsillotomy, besides rendering the needed secondary operation more difficult. The dangers of tonsillectomy can be obviated and the operation rendered uniformly safe.

In all cases where the patient is under fourteen years of age, I use gas, oxygen and ether anesthesia, always employing an expert anesthetist. The operating table is placed at a forty-five degree angle, head down, maintaining this position until all reflexes return, using suction throughout the operation. I remove both tonsils at the same time, using the Beck Mueller instruments, allowing as little hemorrhage as possible. I wait until both fossae are dry, when I proceed with the adenoid operation. I have my assistant keep a strict guard against any asperation of blood or tonsillar contents, never allowing the patient to leave the table until all bleeding vessels are clamped and the throat is perfectly dry. All chronically diseased tonsils, regardless of the age of the patient, should be removed. I condemn the operation in the acute or subacute stages. Children will not lose weight or suffer complications if given plenty of milk and kept in bed for four or five days following the operation.

I use freshly distilled water, with the Ringer tablets and a one per cent novocaine and adrenalin solution locally, in my adult cases, injecting around but never into the tonsil. My post-operative treatment of these local cases consists of a gargle of mild permanganate of potassium solution, beginning the second day following the operation, using an aspirin gargle for pain. The ultimate results in the enucleation of tonsils following this technic, has been very satisfactory to all concerned, complications rarely occurring.

I have never treated diseased tonsils by *x*-ray or radium. My knowledge of this new field is from observation alone. On my recent visit to several of the private clinics in the east, I noted a number of cases that had been treated by radiotherapy. Dr. Witherbee, leading authority in roentgenology, of New York, has recently published a number of articles making extravagant claims for *x*-ray radiation, stating that marked shrinkage and a sterile tonsil occurred. Besides, there was no anaesthetic, no hemorrhage, no lung abscess, no damaged pillars or loss of time. It was also claimed that throats were rendered free of diphtheria.

Dr. Butler of Boston, states that the equipment required is quite expensive, highly technical, and very dangerous in unskilled hands. These dangers should be fully appreciated by the profession. They are well known to every experienced roentgenologist. He states that the patient must be protected from the possibility of any electrical contact with the tube or wires, and adequate protection against *x*-ray burns. Outside of a marked dryness of the throat, no trouble was experienced with the parotid gland. The thyroid and pituitary glands were not affected, having been protected by sheet lead. Many children and nervous adults were frightened by the *x*-ray apparatus. A disadvantage of the *x*-ray is the uncertain dosage.

Laboratory experiments have shown that micro-organisms do not yield to *x*-ray exposures. Radium is preferred by many radiologists, instead of the *x*-ray. It is claimed that one application does the same thing as *x*-ray under the same circumstances. No one but the best trained technicians should employ this powerful agent. Radium, like *x*-ray should not be depended upon to get rid of fibrous tissue or pus.

Drs. Beck, Pollock and Lederer, of Chicago, make the following observations on the use of roentgen ray in tonsillar disease:

"In no case in our series have we observed any marked changes, or that typical hypertrophied tonsils were reduced in size. Patients with infected tonsils with the usual recurrent attacks of tonsillitis were seemingly benefited for a period, only to have a recurrence of the attack."

Dr. Charles R. C. Borden of Boston concludes that:

(1) After radiation many of the tonsils appeared to be normal in size and color, but at the time of operation a number of them were found to be filled with pus or cheesy debris; (2) as a method of

reducing bleeding and assisting dissection at the time of the operation, radiation is useful; (3) where we have secondary infections in the joints, heart, kidney or other important organs as a result of diseased tonsils, *x*-ray radiations are inadequate."

Personally, I think that radiotherapy in chronically diseased tonsils is a waste of time and a step backward. Laboratory reports show that the micro-organisms do not respond to *x*-ray or radium treatments; they will not destroy infection. Only in cases where operation is positively contraindicated, would I resort to radiotherapy.

A careful, thorough, painstaking tonsillectomy is the only rational method of treatment for chronically diseased tonsils.

I am attaching extracts from letters from a few leading laryngologists, bearing on the treatment of the tonsil with *x*-ray and radium:

"The objection to radiotherapy is that it does not sterilize the tonsil. It does reduce the size of it."—Dr. Beaman Douglass, New York.

"I have had very limited experience in observing the effects of radiotherapy for tonsils. In the cases I have seen the treatment has not proven entirely satisfactory. A diminution in size of the tonsils was noted, but in the only two cases which have returned to the office for observation after this treatment was carried out, both came because of attacks of acute tonsillitis. In view of the fact that clinical observations are common showing very much shrunken tonsils in which pockets of pus persisted, it would hardly seem logical to suppose that tonsils shrunken by radiotherapy would not still be a possible menace."—Dr. George E. Shambaugh, Chicago.

"The object of radiotherapy in diseased tonsils was to sterilize the tonsil and to cause shrinkage. I think the *x*-ray sterilized only superficially and in certain soft types it does cause some shrinkage, but all of the cases I subsequently examined appeared to revert to the diseased condition that existed before the application of the *x*-ray in from one to four months."—Dr. Ross H. Skillern, Philadelphia.

"On general principles, however, I am frank to say that I do not approve of it and cannot see how it can possibly be effective in neutralizing the toxic contents of morbid tonsils and preventing its recurrence or perpetuation; and since the enucleation of the tonsil, when properly performed, gives relief, and permanently, it is my belief that the latter procedure must remain our only completely satisfactory course."— Dr. J. Leslie Davis, Philadelphia.

ABSTRACT OF DISCUSSION.

Dr. R. H. T. Mann, Texarkana: I do not know what the final outcome is going to be in regard to the use of the *x*-ray on the tonsils. I firmly believe it is going to be of immense value. Up to this time, the only thing we have done is to remove tonsils. The specialists of the country are now in competition with another method of getting rid of tonsils, and which one is going to win remains to be seen. As a matter of fact, there has been an enormous number of fatalities from tonsil operations. I think that there have been a dozen patients lost in the last ten or fifteen years, within a hundred miles of Texarkana. I think it was last year that we had a report of forty-eight deaths from the use of local anesthetics in the hands of specialists. That was an enormous number, far greater, it seems to me, than should have been the case. The tonsil operation is not free from danger. I do not know the cause of these deaths, but I do know that when a death from a tonsil operation occurs in a community, the people of that community who hear about the case will certainly try radium, *x*-ray or anything else rather than an operation.

Dr. E. R. Carpenter, Dallas: The removal of tonsils is not difficult, as the instruments and the technique have been developed whereby most physicians who have taken pains to perfect themselves can do the operation nicely. However, it is not so much a question of doing the operation as it is knowing whether the tonsil should be removed. I am certain that over half the tonsils removed today would be better if undisturbed. Too many are removed just to see if the complaint will not disappear, whereas a careful, thorough investigation would often reveal that the tonsil was not at fault. I have recently been requested to remove tonsils in children where I found microscopical pus or colon bacilli in the urine, and in others some endocrine trouble, or other vague disturbances. Within the last two years, out of over two hundred patients I have seen complaining of some head trouble or associated head disturbance, there have been only three patients in whom I deemed it necessary to have the tonsils removed in order to overcome the disturbance; of course, many of these patients had already undergone tonsillectomy.

Where the tonsils are large from hypertrophy, especially in young children, it is not always advisable to remove them, and although I have had no personal experience with the *x*-ray in such cases, from my knowledge of the *x*-ray and from the reports by those who have done a great deal of this work, I feel that there is possibly a unique place for this therapy in selected cases. This special, young lymphoid tissue, shrinks readily under the ray, and notwithstanding adverse reports by some writers, the question is well worthy of consideration.

Dr. Ted L. Terry, Galveston: It has been my privilege to study a number of microscopic sections of malignant tumors that had been treated by *x*-ray and radium, some being sections of metastatic deposits in lymph glands. The effect of the *x*-ray and radiation was a destruction of the most specialized cells, that is, parenchymatous cells and tumor cells, with a decrease in vascularity and a proliferation of fibroblasts. Such a fibrosis of the tonsil would cause more difficulty in removal.

It is my understanding that *x*-ray and radium do not destroy bacteria; in fact, bacteria are better able to invade tissues in which vitality and blood supply has been reduced. For this reason, such treatment seems contraindicated in inflamed tonsils. The gynecologists teach that neither *x*-ray nor radium should be used for cancer of the uterus if there is any infection in the pelvis.

Even though the tonsil may be reduced materially in size and surface culture may show no bacteria, deep in the fibrous mass the infection may persist. The treatment by *x*-ray is chiefly intended to reduce the size of the gland, while surgery removes the focal infection as well as the hyperplastic lymphoid tissue.

Dr. O. H. Judkins, San Antonio: Major Trender of the Station Hospital, Fort Sam Houston, recently reported an exhaustive study of two hundred cases among the enlisted men of the United States Army. His report was the most thorough, painstaking and exhaustive I have ever listened to, and covered an experimental period of two years. His records were accurately kept and he had the co-operation of both *x*-ray and pathological laboratory. Smears were taken and bacteriological examinations made in each and every case, both before and after treatment, and

at intervals of every ten days over the entire period. He also took careful measurements of both tonsils. After this careful analysis he has arrived at the conclusion that *x*-ray treatments of infected tonsils are of very little value, and only to be recommended as a substitute for tonsillectomy in these cases where for some reason operation is contraindicated. It was my good fortune to examine some of these cases with Major Trender and to discuss the matter with him at length. He believes that the shrinkage of the tonsil is only apparent, and is due to the fact that the crypts have decreased in depth. When the tonsil is removed and measured it will be found that it is exactly the same size as it was before treatment. He is not very optimistic in regard to the treatment, and I believe his findings to be absolutely unbiased.

A STATISTICAL STUDY OF THE RESULTS OF TONSILLECTOMY.*

BY

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A casual observer of the literature and the trend in discussion at meetings of medical men, cannot fail to be impressed by the apparent dissatisfaction with the methods employed to deal with diseased tonsils. The electro-therapists with the *x*-ray, dessication and coagulation; the advocates of radium; the never ending host of inventors of tonsillar instruments, and the exaggerators of the bizarre and the unusual into the commonplace, are each, in his own way, urging the adoption of his hobby as a routine practice. So much criticism of tonsillectomy, in one way or another, has been heard from the standpoint of the dangers of the anaesthesia, the errors of operative technic, hemorrhage, lung abscess and the dubious end results, that my study was undertaken to determine the wisdom of substituting some electro-therapeutic or radiological procedure for the classical operation.

In order to approach this problem, certain basic factors in evaluating remedial methods should be recognized, such as the diagnosis; the indications for operation; the theory upon which the relief is based; the technic which carries this theory into effect; the complications ensuing from the technic, and the end results of the whole procedure. The available medical literature for the past eight years has been searched for reports on end results in series of consecutive cases amounting to at least 50, and in this way a combined series of 32,386 cases has been accumulated. In addition to the dry statistics presented by the proponents of tonsillectomy, who naturally would adopt a very favorable attitude toward the operation, it is important to take into consideration opinion based on more general grounds than mere numbers. The latter may be placed in four groups: (1) The operation is comparatively new and as yet is in the development stage; (2) it is a minor operation, and therefore of little consequence; (3) the looseness in the application of operative indications is intolerable, and (4) the advantages of the operation have been overadvertised, and the extravagant claims made by its advocates are not being made good.

Let us first consider these general criticisms, before taking up the statistics. The first recorded operation upon the tonsil was that by Celsus in 10 A. D., who described a method that we today would call the finger enucleation. Aetius, in the year of our Lord 490, was the first advocate of tonsillotomy; Paulus Aegineta originated the method of total extirpation of the tonsil by dissection, in 750 A. D., and Severeni began the use of caustics in the treatment of diseased tonsils in 1637. The method of Celsus was revived by Borelli during the sixties of the nineteenth century. The tonsillotome of MacKenzie popularized the method of Aetius. The dissection and snare method, and the Sluder method, bring us back to that of Paulus Aegineta. The electro-therapists and radiologists have substituted physical for chemical caustics, in the method of Severeni. Thus, history repeats itself. The operation is not new; it is as old as Christianity. It is estimated that 14 per cent of the children of school age and younger have tonsillectomy performed; so the time has passed when this operation can be classed as a minor operation, and therefore of little consequence. The charge that looseness in the application of the operative indications exists in practice may have some basis in fact, but it is not because of lack of adequate standards, for it is universally agreed that only those tonsils obstructing respiration or the eustachian tube, and those that are infected, should be removed. In short, obstruction or infection is the only basis for the operation, and the prime necessity for the realization of this is just as important for all other methods of treatment as it is for tonsillectomy. The criticism that the advantages of the operation have been over-advertised and that the extravagant claims for it are not being made good, can be considered only in connection with statistics.

There were no operative deaths from the anaesthetic in the 32,386 cases. The anaesthetics employed were ether, nitrous oxide and ether, ethyl chloride and local. There were no operative deaths. The deaths from

*Read before the Section on Ophthalmology, Otology, Rhinology and Laryngology, State Medical Association of Texas, Fort Worth, May 9, 1923.

operative complications numbered 11, and the complications involved were acidosis, sepsis, diphtheria and broncho-pneumonia. The operative death rate is 1 to 2,944. The operation is about five times more serious than the administration of an ether anaesthetic. The operative morbidity was recorded in only 153 patients, and is probably too low. It consisted of hemorrhage, diphtheria, scarlet fever, acidosis, broncho-pneumonia, acute otitis media, lung abscess, mastoiditis and meningitis. Hemorrhage was recorded in 44 cases, too low a figure, but analysis is unprofitable because of lack of standards. For instance, one author differentiates four separate and distinct grades of operative hemorrhage, in addition to the reactive and septic. Another writer refuses to recognize operative hemorrhage, except on the basis of any other operation, and reports only cases belonging to the latter classes.

The appearance of diphtheria, scarlet fever, and meningitis as complications, is undoubtedly due to the operation being performed during the incubation period of these diseases. Diphtheria and scarlet fever accounted for five deaths, or about one-half the number of fatalities from all causes. This indicates the prime importance of having a child under close observation for several days prior to operation. Acute otitis media is reported in 90 cases, and one case of mastoiditis is recorded. Lung abscess followed tonsillectomy in eight cases, or one in 4,000, with no deaths from this cause. Moore has presented a series of 202 cases of lung abscess, based upon the response to a questionnaire sent to a large number of laryngologists. He estimates that this affection appeared as a complication following 450,000 tonsillectomies, a ratio of 1 to 2,227—a figure 50 per cent larger than that indicated in this series. The contributing causes to lung abscess are alleged to be either inspiratory or embolic. It has been demonstrated that practically every patient under a general anaesthetic has traces of blood below the larynx, while in almost 50 per cent of the cases this strain extends to the coronion. If inspiration acts as an etiological agent, the number of cases of lung abscess should surely be very much greater than they are, and the ratio instead of being 1 to 4,000 should be 1 to 100 or 200. The same view can be adopted, with certain reservations, with regard to embolism. The specific infectivity of the bacteria to the lung cannot be ignored as a causative factor. The total number of operative complications is 165, or a ratio of 1 to 200.

The efficiency of an operation must be judged not only by the precision of its technic, or by its complications, but by its end results. If the diseases that are prevented by improved general health following tonsillectomy are excluded, the operation acts as a prophylactic measure in only two diseases —diphtheria and scarlet fever. It reduces the incidence of these diseases by 50 per cent. From a curative standpoint, the efficiency of the procedure is naturally highest with the affections of the throat, next with the nose, and next with the ear. Its remedial precision rapidly decreases with the increasing distance from the focus of infection—except that it is poorest with enlarged cervical glands. The obstructive condition of mouth breathing, in which hypertrophied tonsils were in evidence, was cured in 89 per cent of the cases. The failures were due to concomitant nasal obstruction and to the mouth breathing habit. The infective conditions of the throat were relieved in 93 per cent of the cases. The predilection to colds was cured in 82 per cent of cases. The relief in ear symptoms follows the operation in 78 per cent of the cases. There is not much difference in the efficacy of the operation between those affections of the tympanum dependent upon obstruction of the eustachian tube and those from infection.

Those affections due to metastatic infection from its focus in the tonsil, were improved in 75 per cent of cases. The true value of tonsillectomy as a curative measure for enlarged glands of the neck is very difficult to determine, for the reason that such a large percentage of the children who have had their tonsils removed later develop these glands. The efficacy of tonsillectomy in remedying enlarged cervical glands, may be estimated at not more than 50 per cent, and is probably less. In simple fairness, it must be added that where care was taken to select cases for operation, efficiency was far better than indicated above, and in several of the small series it was 100 per cent. Failure in this condition is due to failure in diagnosis and selection, and it probably would have been so in any other method dependent upon treatment of the tonsils. In malnutrition, the operation successfully remedied the condition in 60 per cent of the cases. Contrary to the general impression, the mental condition of the child, as judged by scholarship following the operation, was improved in 49 per cent, was unchanged in 49 per cent, and was worse in 2 per cent of the cases. The voice was improved following tonsillectomy, in 62 per cent and was injured in 3 per cent of the cases. Taking the series as a whole,

and judging the end result of tonsillectomy under three heads, successful, no change and worse, we have the following: In 86 per cent of the cases the operation was successful, in 13 per cent there was no change, and in 1 per cent there was failure. Therefore, the efficacy of the operation can be placed at 86 per cent. The failure in 13 per cent of the cases in which there was no change, was due to mistakes of diagnosis, and exploratory or diagnostic operations in the main and, to a slight degree, to errors of technic. The 1 per cent in which the patient was worse after the operation, can be said to be due to errors of technic, neglectful after care and operative complications.

There is no question that dessication and electro-coagulation have a place in the treatment of selected cases of diseased tonsils, but the impracticability of application to the adenoids of fractious children, will prevent its use as a routine procedure. There may be, likewise, a place for *x*-ray and radium in similar cases, but not as a routine procedure. We must wait upon the experts in radiology to agree upon what the ray can and cannot do, before its position can be determined.

The crying need at the present time is not new methods nor new instruments, but better diagnosis and more careful selection of cases for operation. Properly applied, tonsillectomy has potentialities that are truly wonderful; improperly applied, the operation is not worth while.

MISCELLANEOUS

CONGRATULATIONS FROM MICHIGAN.

We congratulate the profession of Texas and the Texas State Medical Association upon having successfully waged a legislative program that achieved the enactment of a medical law that is a safeguard to the people of Texas and which enables the authorities to deal with violators through an injunction proceeding. The law provides and requires that every individual who represents himself as capable of treating people and who engages in actual practice shall be possessed of definite qualifications as to education and training. The only exception made is to christian scientists, provided they do not charge for their services. When these qualifications are met the state does not concern itself as to what curative measures are employed. Such provisions, we believe, are just and timely. Would that we had such a law in Michigan. Action should be undertaken to secure such a law from our next Legislature. The result in Texas was obtained by the co-operative effort of the State Medical Association.—*Jour Mich. State Med. Soc.*

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES.

Protein Mixtures for Diagnosis.—Mixtures of two or more pollen, epidermal or food protein preparations. These mixtures are supplied in order that the number of skin tests to determine sensitiveness to proteins may be reduced. If sensitiveness to a given protein mixture is found, then tests are made with the individual proteins contained in the mixture. (See Pollen and Epidermal Extracts and Biologically Reactive Food Proteins, New and Nonofficial Remedies, 1923, p. 234.)

Group Allergens Diagnostic-Squibb.—A mixture of two or more allergens-Squibb in equal proportions. These protein mixtures are used to determine sensitiveness to proteins (see preceding article, Protein Mixtures for Diagnosis). Group Allergens-Squibb are marketed in vials containing 0.025 Gm. Many have been accepted.

Protein Extracts Diagnostic-P. D. & Co.—Protein extracts in the form of paste, the base of which is a mixture of glycerin and powdered boric acid. One part represents one part of original material. For a discussion of the actions, uses and dosage, see Pollen and Epidermal Preparations and Biologically Reactive Food Proteins, New and Nonofficial Remedies, 1923, p. 234. Protein Extracts Diagnostic-P. D. & Co. are marketed in collapsible tubes containing sufficient material for fifty tests. Many products have been accepted.—*Jour. A. M. A.*, Aug. 11, 1923.

Elixir of Luminal—Each 4 c.c. (one fluiddrachm) contains 0.015 Gm. (¼ grain) of luminal in a menstruum containing alcohol 20 per cent. For a discussion of the actions, uses and dosage of luminal, see New and Nonofficial Remedies, 1923, p. 63. Winthrop Chemical Co., New York.

Scarlet Red Medicinal-"National."—A brand of scarlet R. medicinal Biebrich-N. N. R. For a discussion of the actions, uses and dosage of scarlet R. medicinal Biebrich, see New and Nonofficial Remedies, 1923, p. 275. National Aniline & Chemical Co., New York.—*Jour. A. M. A*, August 18, 1923.

PROPAGANDA FOR REFORM.

Collosol Calcium.—E. E. Prest (Brit. Med. J., Jan. 14, 1922) recommended a new "collosol" brand of so-called colloidal calcium for the treatment of tuberculosis. T. C. Graves (*Lancet*, Nov. 4, 1922) discussed "Colloidal Calcium in Malnutrition, Chronic Sepsis and Emotional Disturbances." The publications of Prest and Graves serve as uncritical endorsements of another addition to the Collosol preparations. The conclusions reached by Graves concerning the beneficial action in the treatment of "Emotional Disturbances" do not seem justified by the character of the evidence he presents. Such results as he reports are common experiences without the use of medication. There is no basis, either in theory or in the evidence presented, for administering a calcium salt in colloidal form; if advisable, soluble compounds of calcium such as the lactate and chlorid may be administered hypodermically. Thanks to the timely report of the Council on Pharmacy and Chemistry, the Collosol preparations are not being pushed in the United States, though they are being actively exploited in England.—*Jour. A. M. A.*, Aug. 4, 1923.

C-O-M Not Accepted for N. N. R.—The Council on Pharmacy and Chemistry reports that "C-O-M" is the proprietary, noninforming name under which the H. D. Frees Co., Chicago, exploits a preparation which is claimed to be the solution of magnesium citrate of the U. S. Pharmacopoeia but to have the advantage over the official preparation in that it keeps indefinitely. The Council refused recognition to "C-O-M" because (1) the application of a proprietary name to a pharmacopoeial article is irrational and a detriment to rational therapy; (2) as solution of magnesium citrate is readily prepared fresh and of standard quality by pharmacists, the claim of

stability is not a sufficient warrant for the use of a proprietary name for an official article; (3) the therapeutic claims for "C-O-M" are unwarranted, and (4) the advertising propaganda is likely to lead to the excessive and ill-advised use of the preparation by the public.—*Jour. A. M. A.*, Aug. 11, 1923.

Two More Electronic Diagnoses.—A physician reports that one of his patients became alarmed by a diagnosis of generalized carcinoma made by an osteopath who is a disciple of Albert Abrams. In order to test the diagnostic ability of this disciple of Abrams, the physician had the patient send the Abrams disciple a specimen of blood which was taken from a young rooster which had been confined to his coop since birth) for diagnosis. The diagnosis which was received showed syphilis, gonorrhea, generalized carcinoma, sarcoma of the spine, chronic malaria and diabetes. Another physician reports a diagnosis made by an Abrams follower on a man who is working and by no means ready to die. The diagnosis showed "diminished resistance" (an Abrams euphemism for syphilis), "carcinoma of gall bladder," "streptococcus," "sarcoma of both kidneys, right worse," "tuberculosis both lungs, upper right and middle left," "sarcoma," "gallstones," "malaria," and "pneumonia."—*Jour. A. M. A.*, Aug. 11, 1923.

Tapeworm Remedies.—Oleoresin of aspidium and pelletierin tannate are the remedies of choice, the first being more popular. To give the remedies the best chance for action, the intestinal contents should be reduced as much as possible by restriction of solid food and evacuation before the treatment. On the morning of the treatment the patient should stay in bed and be given from 6 to 8 gm. of oleoresin of aspidium divided into as many capsules in the course of 10 to 15 minutes. Two hours later a saline cathartic should be administered and repeated every two hours until thorough evacuation has been secured.—*Jour. A. M. A.*, Aug. 11, 1923.

NEWS

Money Spent for "Patent Medicines."—According to an estimate of the U. S. Public Health Service, people in Illinois last year spent $30,000,000 for "patent medicines." For state public health service they spent, it is said, less than $500,000.—*Jour. A. M. A.*

Next Annual Session of the A. M. A. will be held in Chicago, May 19-23, 1924. Announcement to that effect appeared in the September 22 number of *The Journal of the American Medical Association,* which states that the selection was made by the Board of Trustees.

New Hospital at Bastrop.—The contract for the building of the F. A. Orgain Memorial Hospital at Bastrop has been let to J. T. Peterson, a local contractor, on a bid of $24,000. The building is to be of brick veneer and will consist of 32 rooms. Mrs. S. J. Orgain, a pioneer resident of Bastrop, has donated $10,000 to the erection of the institution.—*Fort Worth Star-Telegram.*

New Hospital at Mercedes.—Mercedes is to have a new hospital, which is to be modern in every respect. Announcement has been made by the board of the Mercedes General Hospital that the new building will be erected in Ebony Park, in the suburbs of the city. William Lingenbruck, a former resident of Mercedes, has donated two lots in Ebony park and the board will purchase two more lots.—*San Antonio Light.*

Experimental Medical Director.—Dr. Earl Miller has been apopinted director of the department of experimental medicine of Parke, Davis & Company, Detroit, to fill the vacancy following the death of Dr. Ezra Read Larned, who was the originator and organizer of this department and occupied the position as head of the department until his death. Dr. Miller was assistant to Dr. Larned for twelve years and has a wide acquaintance among medical men interested in clinical research work.

White Cross Organized in Texas.—Officers of the Bexar Chapter of the White Cross, an organization dedicated to a fight against the narcotic habit, were elected recently as follows: Dr. H. L. Noble, president; Miss Elizabeth Applewhite, first vice-president; Frank Reinhard, second vice-president; Mrs. W. T. Woodfin, secretary; Mrs. R. C. Hugman, treasurer; Miss Goldie Bauman, chairman of the program committee. Headquarters of the organization are at 312 Gunter Building. The annual membership dues will be $1. The organization expects to start an active campaign soon, and eventually to establish a place where addicts may be treated.—*San Antonio Light.*

New Corpus Christi Hospital.—The formal opening of the new Spohn Sanitarium, at Corpus Christi, was held September 9. The hospital has been caring for patients for the last three weeks. The new institution is three stories high, and is said to compare favorably with any small sanitarium in the United States. It was named in honor of Dr. Spohn, a former well known physician and surgeon of Corpus Christi. It is located on the south bluff. The old hospital of the same name was located on North Beach, and was destroyed in the September 14, 1919, storm, at which time one of the Catholic sisters lost her life.—*San Antonio Light.*

Tri-State Medical Society (Ark.-La. and Tex.) will meet in Texarkana, Arkansas-Texas, December 5-6. Papers for the program are now being received and are solicited. The following are the chairmen of the several sections: *Surgery,* Dr. Edgar L. Sanderson, Shreveport, La.; *Medicine,* Dr. Arthur A. Herold Shreveport, La.; *Eye, Ear, Nose and Throat,* Dr. W. D. Hartt, Marshall, Texas; *Genito-Urinary,* Dr. Frank S. Littlejohn, Marshall, Texas; *Gynecology and Obstetrics,* Dr. Edwin L. Beck, Texarkana, Texas; *Pathology and Bacteriology,* Dr. Nettie Klein, Texarkana, Texas; *Miscellaneous Topics,* Dr. C. R. Hargrove, Marshall, Texas.

Dr. O. M. Heartsill of Marshall is president, and Dr. Franke H. Walke of Shreveport, is secretary of this organization.

New Hospital for San Angelo.—The John Findlater home at the corner of Magdalen and East Harris Avenue has become the property of Dr. H. P. Rush and Dr. W. R. Chambers, both local surgeons and physicians. The place will be remodeled by them and utilized as a downtown hospital.

The hospital will be known as the San Angelo Sanitarium and it is understood will be open to all regular physicians caring to take advantage of its facilities. Latest hospital equipment has already been ordered. The institution will maintain fifteen patient beds and a sufficient number of nurses to care adequately for any number of patients that are brought there for treatment, according to the purchasers.

The new owners announce that it is their purpose to erect a modern brick sanitarium as soon as feasible, erecting one large enough to meet every demand that may be made upon it. At present San Angelo has two hospitals, the Parks Heights Sanitarium and St. John Sanitarium, a Catholic institution, east of town.—*Fort Worth Star-Telegram.*

The State Board of Medical Examiners will conduct examinations for the practice of medicine and surgery in Texas, at the Jefferson Hotel, Dallas, November 20-22, 1923. Applicants for examination should

communicate at once with the Secretary, Dr. T. J. Crowe, Mercantile Bank Bldg., Dallas, Texas, who will supply the necessary data, blanks, etc.

Sophomore or junior medical students who can furnish certified credits covering the work in the freshman and sophomore years in reputable medical colleges, will be admitted to examination in anatomy, physiology, chemistry, histology, bacteriology and pathology. Examinees in this group making a general average of 75 per cent will be issued certificates which will exclude the subjects passed from final examination for finals. The fee for this partial examination is $15.00.

The following schedule for examinations will be adhered to:

November 20.—Inspection of diplomas, 9:00 to 10:00 a. m.; anatomy, 10:00 to 12:00 a. m.; physiology, 1:45 to 3:45 p. m.; chemistry, 4:00 to 6:00 p. m.; histology, 8:00 to 10:00 p. m.

November 21.—Bacteriology, 8:00 to 10:00 a. m.; pathology, 10:00 to 12:00 a. m.; surgery, 1:45 to 3:45 p. m.; diagnosis, 4:00 to 6:00 p. m.

November 22.—Hygiene, 8:00 to 10:00 a. m.; gynecology, 10:15 to 12:15 a. m.; obstetrics, 1:45 to 3:45 p. m.; jurisprudence, 4:00 to 6:00 p. m.

Interchange of Health Officers in the United States.—An event which may be fraught with far-reaching consequences for world health is the third general interchange of health officers arranged by the Health Section of the League of Nations, which is now taking place in the United States.

Representatives from France, England, Italy, Russia, Poland, Spain, Holland, Belgium, Greece, Jugoslavia, Germany, Switzerland, Norway, Mexico, San Salvador, Brazil, Chile, and Canada, delegated by their respective governments to participate in a course of study and observation, arrived in America the first week in September and will remain for approximately three months. Until September 22 the delegates will remain in Washington, studying national health organization as administered by the United States Public Health Service. Following the close of the course of study of the national health agency, the delegation of visitors will separate into three groups, one of which will proceed to Virginia, another to North Carolina, and a third to Alabama, where about three weeks will be spent in studying state and local health departments. Richmond, Virginia, Raleigh, North Carolina, and Montgomery, Alabama, are the southern cities which have been selected for study. From there the groups will proceed to Massachusetts, New York and Pennsylvania, respectively, for the purpose of studying the health administration in three northern states and small cities. Syracuse, New York, Allentown, Pennsylvania, and one of the smallest cities of Massachusetts yet to be designated, will be visited for a short period. Following this, the groups will make a study of health administration in three of the large cities of the East, namely, Boston, New York and Philadelphia. Present plans call for a reassembling of the entire delegation in Washington late in November for a final conference.

Junior Medical Officers Wanted.—The United States Civil Service Commission announces an open competitive examination for junior medical officer. Vacancies in the positions of physician in the Indian Service, surgeon in the Coast and Geodetic Survey, and physician in the Panama Canal Service for duty outside of hospitals, at the salaries indicated below, and in positions requiring similar qualifications, at these or higher or lower salaries, will be filled from this examination, unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

The entrance salary for physician in the Indian Service ranges from $1,000 to $1,200 a year (plus bonus, see below), with quarters, heat and light. Employees have the privilege of boarding at the common "mess" at a very low cost. The Government furnishes all drugs and equipment and means of transportation.

The entrance salary for surgeons in the Coast and Geodetic Survey is $1,400 a year (plus "bonus," see below), with allowance for subsistence at $2 per diem while serving on board ship, except in the Philippines, where the allowance for subsistence is $2.50 per diem. The number of surgeons in the Coast and Geodetic Survey actually employed and under pay at any time is eight. Three of these are employed in Alaska and on the Pacific Coast, four in the Philippines, and one on the Atlantic Coast and in Porto Rico. Officers serving in the Philippines are usually relieved at the end of two years. All surgeons are attached to vessels, and while their first duty is to conserve the health of the crew, it is expected that they will take part in the work of the Survey. Appointment will be confined to those who indicate willingness to accept service in any of the regions named.

The entrance salary for physician, Panama Canal Service, is $250 a month; promotion may be made to $275, $300, $325, and $360, and to higher rates for special positions. The salary begins on the date of sailing for the Isthmus, and free furnished bachelor quarters are supplied on the Isthmus. Meals may be obtained at the Government restaurants on the Isthmus at 40 cents each and upward. Vacancies in the Canal Zone hospitals are filled by the detail of officers of the Medical Corps of the Army; *openings for civilian physicians therefore occur only in the service outside of the hospitals proper and are few and infrequent.*

Appointees at annual compensation of $2,500 or less, whose services are satisfactory, may be allowed the increase granted by Congress of $20 a month. Apply for papers to Civil Service Commission, Washington, D. C.

SOCIETY NEWS

Dallas County Medical Society met September 13, with 47 members and 4 visitors present.

Dr. E. R. Carpenter reported the case of a woman, aged 33 year, with an epithelioma of the brain, on the right side, and a cyst at the base of the brain.

Dr. C. M. Rosser reported that he had operated on twin boys, two months of age, both of which had pyloric stenosis.

Dr. R. H. Daniel reported a case in which the enucleation of an eye became necessary following an injury caused by a grape being thrown by a child at a passing automobile. He urged that parents be cautioned to teach their children the danger of such procedure.

Dr. E. B. Strother reported the case of a child with echymosed splotches on the skin. Calcium lactate, ten grains, was given three times a day for several days, with no apparent result. Blood transfusion was then resorted to, with considerable improvement, but there still remains some echymosis.

Dr. Florence Austin read a paper on "Amenorrhea," which was discussed by Dr. A. W. Carnes.

Miss Grace B. Jones, masseuse, read a paper entitled, "Therapeutic Value of Massage and Swedish Movements," which was discussed by Drs. Nash, Fetzer, Turner, McReynolds and Warren.

Dr. L. W. Fetzer delivered an address on the subject, "Intarvin: Nonacidosis Fat for Diabetics," which was discussed by Drs. Winans and Carter.

Drs. F. W. B. Rockett, W. F. Pickett, Homer Powell and J. H. Smart, were elected to membership on application.

Dr. B. F. Crabtree, from Ellis County Medical Society, and Dr. E. C. Schulze, from Collin County Medical Society, were elected to membership on transfer.

Dr. Jno. S. Turner, Chairman of the Board of Censors, stated that he had an exhaustive report prepared on the Abrams treatment, but that it was too long to read at this time. The report also included the connection of Dr. Gantt with this treatment. The resignation of Dr. Gantt as a member of the society, which had been tabled, was accepted. On motion of Dr. Terrill it was agreed that the Board of Censors make its report on the Abrams treatment at the next meeting of the society.

The resignation of Dr. H. G. Jansen as a member of the society, which had been in the hands of the secretary for some time, was accepted.

The president was authorized to appoint a committee, with himself as chairman, to act as a reception committee on the occasion of the visit of Dr. Royal S. Copeland of New York, to Dallas, October 20.

El Paso County Medical Society met September 3, with 22 members and 1 visitor present.

Dr. J. A. Pickett reported a case of a very large, inoperable tumor of the abdomen, in a man 40 years of age. Except for the inconvenience due to bulk, the tumor caused no trouble until about three months before operation, at which time the patient developed severe pain, requiring morphine for relief. Dr. W. W. Waite presented the post-mortem specimen, and discussed the pathology. The omentum was greatly enlarged, being from 2½ to 3 inches thick and containing much colloidal material. This colloidal material filled the available space in the abdominal cavity. There was a large mass in the region of the sigmoid of the liver and kidneys, but no invasion of these organs. The diagnosis was colloidal carcinoma.

Dr. W. R. Jamison reported a case of amoebic dysentery in a woman 54 years of age, married, who had consulted a large number of physicians and undergone a number of treatments, including surgery. She complained primarily of itching and formication of the vulva, itching and eruption around the anus and extreme nervousness. The itching began about eight years ago. About two years ago it became acute, and was accompanied by formication. The eczematous condition around the anus began about a year ago. The patient was constipated until two years ago, when she began to have attacks of diarrhea. Two years ago the clitoris was amputated for relief of the itching, and shortly after that the nerves of the vulva were cut. *X*-ray treatment, of which there had been many, failed to relieve. A sojourn in Hot Springs, in 1922, was without beneficial effect. In June, 1922, the nerve supply of the vulva was injected with alcohol, with relief of the symptoms for six months, after which there was a gradual return of symptoms. One year ago considerable blood was passed from the anus, and again there was bleeding from the anus two months ago. The alcohol injections were repeated at that time, but with temporary relief. In all there had been thirteen of these injections. Examination disclosed slight tenderness of the descending colon and sigmoid, on pressure. Scars of the several operations were evident, but there was no evidence of formication, and vaginal examination was negative. There was an eczematous area around the anus, extending into the mucous membrane of the anus, which was fiery red and inflamed, very itchy and somewhat tender to the touch. Examination of the rectum disclosed a proliferative proctitis, covered with mucus, which bled easily. The treatment was by hypodermic injections of emetin, 0.03 cgm. daily; washing the rectum with a solution of borol, two tablespoonsful to the half listre, and daily injections of 60 c.c. of bismuth subnitrate (30.00), thymol iodid (4.00), and olive oil (q. s. ad. 500). The treatment is apparently proving successful, the amoeba not being demonstrable at this time, and the itching and formication having been absent for a week. The case was discussed by Drs. Rigney, Garrett and Prentiss.

Dr. R. B. Homan read a paper on "The Physiology of Rest in Pulmonary Tuberculosis." The author gave six principal advantages of rest, namely, (1) the promotion of healing; (2) conservation of energy and strength; (3) the protection of the heart and other organs; (4) dimunition of cough by decreasing lung secretion; (5) lowering the body temperature by reducing toxemia, and (6) lessening the danger of pulmonary hemorrhage.

The paper was discussed by Major Scott and Drs. Hendricks, Waite, Garrett, Werley, Leff and Egbert. In the discussion, the value of rest in numerous diseases was cited in support of its value in tuberculosis. Relaxation in fracture is induced by rest. An experiment at the Hebrew Hospital in Denver, Colorado, was described in this connection. Certain patients who were kept in rooms painted black and the windows so draped as to make it appear that day was night, were caused to reverse their habits, sleeping in the day and waking at night, and it was found that the daily rise in temperature also was reversed.

Dr. W. S. Larrabee read a paper on "The Importance of *X*-Ray Examination in Pulmonary Diseases," in which the author emphasized the value of such examination as a routine in pulmonary diseases, as an adjunct to the physical examination. By the use of the fluroscope the excurion of the diaphragm, dilatation of the heart, size and location of any aneurysm present, and the extent of the areation of the apices, may be disclosed. Stereoscopic films are better than single flat plates, because they bring into proper relation the depth of tissue changes, give location and depth of cavitation, disclose whether cavities are empty or full, and show the exact amount of lung tissue involved, and whether it is fibrosed or calcified.

The paper was discussed by Captain McCaw, Major Scott and Drs. Turner, Homan and Rigney.

The vacancy on the board of censors caused by the removal from the State of Dr. Wright, was filled by the appointment of Dr. S. D. Swope. The other vacancy on the board, caused by the death of Dr. W. R. Smith, will remain until the end of the year, in memory of Dr. Smith.

The question of enforcing the Medical Practice Act, and the subject of legislation, were discussed. One member reported that he had been able to make appointments with two chiropractors and one christian science practitioner, who were daily practicing in violation of the law.

Available candidates for filling the vacancy in the State Senate, occasioned by the resignation of Senator Dudley, were discussed.

A vote of thanks was extended Dr. Hugh Crouse for his successful work in defense of compulsory vaccination in the schools of El Paso.

The society decided to hold weekly meetings, two each month to be devoted to clinics. The by-laws of the society will be amended accordingly.

El Paso County Medical Society met September 17, with 33 members and 1 visitor present.

Dr. W. R. Jamison reported a case of chronic pyelitis.

Dr. S. D. Swope presented a case of hypertension, which was responding in a gratifying manner to treatment. He expected a permanent lowering of the blood pressure. The diagnosis was atheroma—fatty degeneration of the coats of the blood vessels.

A paper entitled "Splenic Anaemia" was read by Drs. Egbert, who treated the case described in the paper from a medical standpoint, and B. F. Stevens, who treated the same patient from a surgical standpoint. The case was discussed by Drs. Homan and Waite, and Major Scott.

Dr. F. P. Schuster read a paper on "Post Nasal Tumors," which was discussed by Drs. Waite and S. A. Schuster.

Dr. M. S. Molloy was elected to membership.

Upon suggestion of Dr. W. Warner Watkins, Editor of *Southwestern Medicine*, Dr. F. O. Barrett was elected associate editor of that publication. The duties thus assumed by Dr. Barrett were by amendment to the by-laws made a part of the duties of the secretary.

Resolutions were adopted advising the mayor and city council to eliminate the requirement that Wassermann tests be made in the case of all food handlers, limiting the application of this test to those who would appear to require it.

Fort Worth Medical and Surgical Clinic held its regular bimonthly meeting September 20, 1923, with morning clinics of mental and nervous diseases at the Arlington Heights Sanitarium, and general medical and surgical clinics at All Saints Hospital. An excellent luncheon of fried chicken and all the trimmings, was served by ladies of the Auxiliary in the Tarrant County Medical Society Hall at 12:15 p. m., which was well attended and thoroughly enjoyed. The luncheon and afternoon scientific program, were presided over by Dr. L. H. Reeves, chairman. The following out of town visitors were among those present: Drs. Knox of Cleburne, Redford of Boyd, Carpenter, White and Nash, of Dallas, and Fullingim of Denton.

At 1:30 p. m., the scientific program began with presentation by Drs. Gilmore and Roberts of a case of multiple myeloma. The patient was a child 2 years of age who, 18 months ago, had a diagnosis of tuberculosis of the spine, and was treated as such until lesions appeared at the base of the skull, leading to the diagnosis of myeloid sarcoma. *X*-ray treatments were begun, and marked improvement was noted in all lesions. Since then new lesions have appeared in the parietal and frontal bones, the left sixth rib and the right femur. There is no evidence of lymphatic involvement. Four days ago there occurred a fracture, caused by the lesion in the right femur. Bence-Jones albumose has been found in the urine four times (every examination) during the past six months. The general tendency of the case has been to improve on *x*-ray treatment. The evidence points to a multiple myeloma rather than to ordinary sarcoma.

Dr. Frank Schoonover read a paper on "Hematuria," using lantern slides to illustrate various types and causes of this important clinical manifestation. He made a complete classification of the more common as well as the rare etiological factors, and emphasized their importance, not only to the urologist but to the general practitioner as well.

Dr. Harry E. Braun demonstrated, in a series of guinea pigs, the clinical effects of overdosage of insulin, and its easy control by hypodermic injections of glucose. The symptoms manifested in the guinea pig by overdosage were, profuse perspiration, polyuria, general paresis developing into paralysis, generalized convulsions and coma. He emphasized the necessity of controlling every diabetic by urine and blood determinations of sugar content, before undertaking the administration of insulin. He also stressed the point that diabetic patients having an infection require larger doses of insulin than those not infected. It was the concensus of opinion that insulin is to prove very useful, but that its field is quite limited.

Dr. C. P. Hawkins presented a case of pemphygus of five months' standing, in which the bullous eruption had spread over the entire body. Intense itching was the chief subjective symptom. There was hardly a spot on the body that had not been affected. The treatment being given was entirely local, and in a period of two and one-half months had brought about marked improvement and great amelioration of symptoms.

Dr. Tisdale of Handley, reported a case of sudden death from congenital heart disease, in a young man 17 years of age, who had been previously presented to the clinic and who had continued to work and be very active up to the moment of his death.

Harris County Medical Society met September 8, with 35 members present.

Drs. M. D. Levy and W. O. Williams, reported a case of lymphuria, a condition in which the urine contains lymph. Grossly, the fluid is quite milky, with an occasional pinkish appearance due to blood, which latter condition is designated hemato-lymphuria. There is usually low specific gravity, acid reaction and albumen, but no sugar. There are no fat globules, but lymphocytes, pus cells and red blood cells are usually present. The condition arises from a blocking of the lymphatics below the infection, although cases have been reported arising from other parasites. Rupture of lympth vessels during pregnancy, or under sudden severe strain, and sometimes from malignancy. Tuberculosis or syphilis, or some definite infection, may produce lymphuria. The course of the condition is variable. There are intervals when the urine is normal. Ordinarily, the symptoms are negligible, but the continued passage of lymph in this manner may lead to exhaustion and to various neuralgic pains. At times there may be clotting in the bladder or pelvis of the kidney, resulting in symptoms of strangury.

The authors report the following case of unilateral lymphuria: The patient, a white man, age 34, probably has paresis. His illness began with fever, headache, pains of a cramplike nature in the region of the left kidney, and burning and itching of the urethra. The Widal reaction was positive. The patient was in the hospital from May 27 to June 7, during which time the temperature ranged between 101° to 104° F. The pulse was from 84 to 100, and the respiration from 20 to 24. Four urinalyses showed pus; specific gravity, 10-12; no albumen; negative for blood; white blood corpuscles, 12,700; polys, 85; lymphocytes, 12. No filaria were found. The Widal became negative, and the Wassermann resulted in a double plus reaction. The cystoscope showed the lymph to be coming from the left side only. Treatment consisted of liquid food, phosphates, and salol.

Dr. J. C. Michael reported a case of veneroid ulcer. The patient, a nurse, aged 24, complained of a smarting of the vulva. A small, shallow ulcer was found upon the mucous surface of the left labium majus. Examination spirochetes, Durcey's bacillus, diphtheria and other bacilli were negative, except for a gram positive bacillus, believed to be bacillus crassus. The ulcer healed under simple local treatment. The importance of this case lies in the likelihood of mistaking the lesion for chancre or chancroid. The disease is not contagious.

Dr. J. C. Alexander read a paper on "The Diagnosis and Treatment of Epididymitis." The disease is important because of the pain, discomfort and psychic effect. Gonorrhea is the most common cause, with tuberculosis ranking second. Often there is an extension of infection from the bladder or urethra. It may occur in mumps, typhoid fever and other acute

infections. It may occur at any age, but the tuberculous form is more common between the ages of 20 and 35. Traumatic epididymitis is common among laborer. The tuberculous or infectious types may be lighted up by trauma. Chronic epididymitis results from acute conditions, and there is usually a hard nodule remaining. Out of 40 nontuberculous cases recently studied by Dr. Alexander, 26 were gonorrheal. In over half of the chronic cases examined, there were minute abscesses in the tubule walls, and a hyperplasia of the fibrous connective tissue. The tuberculous form often is coexistent with tuberculosis elsewhere in the body. The symptoms vary. In children there is usually a small, painless nodule, which enlarges and later becomes tender. In adults the onset will be gradual, unless associated with a mixed infection. In diagnosing epididymiti,s syphilis must be considered. Malignant diseases must be ruled out. Prognosis depends upon the etiology. Treatment is either surgical or medical. Epididyotomy is often necessary when there is no favorable response to palliative treatment. Tuberculin and serum are useful in medical treatment. Autolysed serum is being used, but the reaction to this treatment is often severe. Incision and drainage in the acute gonorrheal cases, is the treatment of choice when surgery is resorted to. In tuberculous epidymitis in children, the expectant treatment is best. Surgery is indicated in this form of the disease in adults.

Hidalgo County Medical Society met at Mission, September 6, with the following in attendance: Drs. Barera, Caldwell, Conrad, G. W. Edgerton, M. H. Edgerton, Harrison, Jeffries, McGee, Mahone, Miller, Osborn, Stephens, Utley, W. E. Whigham, Glass, Salter and Hunter.

Dr. John Hunter reported a case of convulsions which, in his opinion, was due to congestion of the brain from being overheated.

Dr. W. E. Whigham reported a case of curvature of the spine, the cause of which he thought to be an injury followed by chiropractic treatment. *X*-ray plates were shown in connection with the case.

Dr. Caldwell reported a case of rat-bite fever in a small boy. The initial lesion, in the hand, healed in a few days, leaving a small enlargement. In about ten days there developed high fever, glandular enlargement and a macular rash, which symptoms continued for several days, gradually clearing up. They returned in about two weeks, and since that time there have been recurrences at from six to ten-day intervals, each exacerbation milder than the previous one. Treatment has been by neosalvarsan.

Dr. Jeffries, who had seen the case reported by Dr. Caldwell, read a paper on "Rat-Bite Disease." He said that the disease seems to be more prevalent in the yellow races, the Japanese reporting more of it than any other country. Until 1916, only 81 cases had been reported in this country. The chief symptoms are those recited in the case reported by Dr. Caldwell. The incubation period is from 10 to 22 days, and the recurrence about 6 to 10 days apart. There are two varieties of this disease, the one caused by a streptothrix, which is not considered true rat-bite disease, and the other caused by a spirillum or spirochaete. Arsenic in some form, preferably neosalvarsan, is the choice method of treatment.

Dr. Edgerton stated that sodium iodide has been most highly recommended in this disease. He does not believe arsenic preparations are of value if given per rectum, unless the patient has been dehydrated for at least twenty-four hours before administering the remedy.

Dr. Utley called attention to the fact that arsenic has been long recommended in diseases caused by spirilla. He thinks the sulpharsphenamine is going to prove a valuable preparation.

Dr. Conrad reported a case probably of rat-bite fever, which he had seen twenty-five years ago, and which he had treated with potassium iodid.

Dr. Hunter read a paper on "Medical Ethics," in which he handled a number of familiar problems, without gloves. The paper was discussed by Drs. Utley, Stephens, Whigham, Edgerton and Harrison.

A resolution amending the by-laws so as to suspend any member failing to attend three successive regular meetings, without a valid excuse, was tabled for consideration at the next meeting of the society.

Dr. John Hunter, formerly secretary of the society, was elected an honorary member.

Milam County Medical Society met in Rockdale September 11, with the following members and visitors in attendance: Drs. Epperson, Taylor, Sapp and Rischar of Cameron; Colter, Session, Barclay, Crump and Wallace of Rockdale; Thomas and Gilbert of Austin; Moody of San Antonio; Collier, Vaughan and Wedemeyer of Taylor; Kirkpatrick of Thrall; McReynolds, Talley, Robinson, Scott and Sherwood of Temple; Anderson of Thorndale; Curtis of Rogers.

The following scientific program was rendered: "Stomach and Duodenal Conditions," Dr. Joe Gilbert, Austin; "Focal Infection with Special Attention to Teeth and Tonsils," Dr. J. H. Vaughan, Taylor; "Relation of Teeth, Tonsils and Toxemias to Disease of the Eye," Dr. G. B. Taylor, Cameron; "Uterine Bleeding," Dr. M. C. Sapp, Cameron; "Use of Radium in Gynecological Pathology," Dr. M. W. Sherwood, Temple; "When Should a Goiter Be Operated?" Dr. A. C. Scott, Jr., Temple; "The Effects of the Bromide Treatment in Diseases of Nervous System," Dr. T. L. Moody, San Antonio.

The next meeting will be held in Cameron, December 11.

Red River County Medical Society met in Clarksville, September 10, with the following in attendance: Drs. W. F. Brooks, Alvin Dinwiddie, Hooper Stiles, Claud Scaff, R. L. Terry, H. G. Wooten, Nowlin and Gavin Watson, J. C. Durrum, Will Durrum, P. E. Gold, J. C. Stiles and H. R. Smith.

Dr. R. L. Terry reported a cesarean section, in a patient 18 years of age, made necessary by a contracted pelvis.

Dr. H. R. Smith of Detroit, reported a clinical case, which was generally discussed.

Dr. R. L. Terry read a paper on "Pneumonia," in which he discussed in detail the etiology, diagnosis and treatment of the disease.

Dr. Howe, director of the Red River County Health Unit, was elected to honorary membership.

Pursuant to request of the councilor, a collection was taken for the fund for legislation and public instruction, netting $50.

Van Zandt County Medical Society met September 7, with six members and one visitor present.

As there was no program, a general roundtable discussion of clinical cases was held.

The local members served delicious refreshments, thereby completing a very pleasant afternoon for the society.

Wise County Medical Society met at Decatur, September 4, with 8 members and 2 visitors present.

Dr. Frank Boyd of Fort Worth, read a paper on "Acute Otitis Media." Mrs. Frank Boyd, district president of the Ladies' Auxiliary, met with the Wise County Society Auxiliary.

CHANGES OF ADDRESS.

Dr. P. C. Clements, from Benford to Center.
Dr. C. P. Lynch, from Diboll to Chillicothe.
Dr. Chas. W. Castner, from Terrell to Rusk.
Dr. R. B. Wolford, from Childress to Wichita Falls.
Dr. L. P. Allison, from Brownwood to Coleman.

BOOK NOTES

If the riches of the Indies, or the crowns of all the kingdoms of Europe were laid at my feet in exchange for my love of reading, I would spurn them all.—*Fenelon.*

Diseases of the Gums and Oral Mucous Membrane. By Sir Kenneth Goadby, K. B. E., M. R. C. S., L. R. C. P., D. P. H. (Cant.). Lecturer on Bacteriology of the Mouth, Dental Department, University College Hospital; Specialist Medical Referee for Industrial Poisoning, London District (Home Office); Late Bacteriologist Specialist, Royal Herbert Hospital, Woolwich; Erasmus Wilson Lecturer, Royal College of Surgeons, 1907; Hunterian Professor, Royal College of Surgeons, 1911. Cloth, 8vo. pages 383, with 106 illustrations and 3 tables. London. Henry Frowde and Hodder & Stoughton, The Lancet Building, 1 Bedford Street, Strand, W. C. 2. 1923. $14.00.

Intended as a text-book for the general practician, and for the dental student, the author, whose accumulation of titles and wide experience, show him to be entitled to a most serious hearing in the matter set forth for study, has given us a book of the highest value. Not only has he treated his subject from the commanding viewpoint of twenty years of practical experience, but he has liberally availed himself of the wide field of literature that has been recently written along the same and parallel lines of practical and scientific research work, thus giving to the reader a fine view of the entire field of achievement to the present time.

The text is divided into ten chapters, as follows: Gingivitis; Alveolar Abscess; Perodontal Disease; Diseases Originating from Mouth Affections; Ulcerations of the Gums; Special Diseases of the Mouth and Gums; Diseases with Oral Symptoms; Neuralgia and Mouth Necroses, and Principles and Methods of Diagnosis in Oral Disease.

There is no consideration of injuries and diseases of the teeth, such being left to the dental surgeon. The secondary relations of the teeth, as in cases of pyorrhea alveolaris, malposition of the teeth and alterations of the dental arch, are described in detail, and advice as to treatment given. The chief object of the writer is to bring out the bacteriology of diseases of the mucous membranes of the mouth and adnexa.

Principles of Bacteriology. By Arthur A. Eisenberg, A. B., M. D., Director of Laboratories, St. John's Hospital; Pathologist to Lakewood Hospital; Serologist to St. Ann's Hospital, Cleveland, Ohio; Director Laboratories, Mercy Hospital, Canton, Ohio; Member Society of American Bacteriologists. Second edition. Cloth, 12mo, pages 214. Illustrated with 40 cuts. St. Louis. C. V. Mosby Company. 1923. $2.25.

The author has included the following new matter in this edition: About the Constancy and the Mutation of Bacteria; A Discussion of D'Herelle's Phenomenon; Some of the Newer Technical Procedures, such as Paltouf's Modification of Gram's Method of Staining; The Rational and the Underlying Principles of the Wassermann Test; The Newer Precipitation and Floculation Tests for the Diagnosis of Syphilis; The New Colorimetric Method of Titrating Culture Media; Blood Cultures, with the Keidel Blood Culture Medium Tubes; The Pretransfusion Blood Tests, and the Blood Typing of Jansky and Moss; More Information About Anaphylaxis, and the Application of Anaphylaxis to the Diagnosis of Hay Fever and Bronchial Asthma; Besredka's Desensitization Methods. The chapter on influenza has been rewritten, and a working classification of streptococococci has been added, and the relation of leucocytes to infections. The text is fairly thorough, but not intended to be comprehensive or exhaustive. It is a good and handy laboratory manual.

New and Nonofficial Remedies, 1923. Containing Descriptions of the Articles Which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1923. Flexible boards, pages 415 and xxxvi. Published by American Medical Association, 535 North Dearborn Street, Chicago. 1923.

It is much to be desired that producers and distributors of remedies not included in the U. S. Pharmacopoea or the National Formulary, should submit them to the Council of Pharmacy and Chemistry for full proof of their value and of the verity of the claims made for them by their exploiters, so that when presented to physicians for prescription uses they may have the guaranty of their own tribunal.

Representatives of certain manufacturers and distributors have informed us that their principals would not submit to the "arbitrary and unfriendly methods of the American Medical Association, because its officers play favorites to some and unfair towards others." This criticism we deem more unjust and unfair than anything we have yet noted in the policy or conduct of the Council, and would call attention to the fact that this Council is the instrument of the regular medical profession of the United States. Its acts are acts of the said profession in its efforts to substitute a rational for the haphazard armamentarium of empiricism, and the sooner the whole drug producing fraternity learn that prescribing physicians will no longer assume responsibility for the administration of the productions of those who will not submit their goods to the careful scrutiny and analysis of those who must be responsible for the results of their administration to the sick, the better for all concerned. For, with up-to-date diagnostic methods, and a rational system of treatment based upon physiologic and biochemic laws, well known to the prescriber, guessing medical empiricism is a tale that is told.

This work is not that of any one man or any coterie of faddists, but the result of all that is sound and justified in the science of medicine. To defy it is to fly into a passion with those who should be offered useful medicines for their patients. Its is the message of the American medical profession to the makers and venders of drugs for human beings.

The Bellevue Hospital Nomenclature of Diseases and Conditions, with Rules for the Recording and Filing of Histories. Compiled by a Committee on Clinical Records, Composed of Robert J. Carlisle, M. D., Warren Coleman, M. D., Thomas A. Smith, M. D., and Edmund L. Dow, M. D., adopted by the Board of Trustees, 1903. Revised and made to conform to the International Classification, 1911. Reprinted, July 1, 1920, and revised and reprinted, 1922. 16mo, pages 303. Flexible boards. Clarence S. Nathan, Inc., 241-245 West 37th Street, New York. $1.60.

A convenient pocket manual of importance to all practicians desirous of being systematic in their clinical work and records.

Texas State Journal of Medicine

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DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH OF TEXAS

Celebrating Armistice Day.—We note with gratification, that Armistice Day is to be celebrated in Texas this year on a scale much more elaborate than at any time since the war. Our appreciation is largely, of course, incident to the fact that we happen to have been in the Army at the time the armistice was signed, and know personally what it meant to the soldier. It was not difficult for the soldier to appreciate what it meant to civilization. However, there is another angle from which to view conditions. The difference between savagery and civilization is largely a matter of appreciation of the relationship between individuals. Because we have agreed to respect the rights of others, and to vie with our fellows in rendering public service, we have been able to group ourselves into large units, and build up a most complicated social, political and economic machine. Some time ago this machine was in grave danger of being wrecked. A bunch of bad boys threw a monkey wrench where it would do the most harm. It did do considerable harm, but the machine was not wrecked. It was saved through the efforts of those who recognized that spirit which has woven civilization together, which we call patriotism, at a total sacrifice almost impossible to calculate. Civilization was proud and happy and appreciative, at the time, but there came a sad reaction in parts of our country, if not everywhere. In many communities, so it seemed, for a candidate for office to admit having been a service man, was to make a definite engagement with defeat. The American Legion, representing most generally, perhaps, the ex-service man, found it difficult to gather together even a respectable size minority, and still more difficult to wield any considerable influence when even that much had been accomplished. Merchants have refused to close their stores on Armistice Day, and efforts on the part of veterans of this war to stage celebrations have very largely fallen discouragingly short of success. The disabled veterans received more attention and better care, but the demand for adjusted compensation has been practically ignored. Those who did the dancing while the soldiers were furnishing the music, have not only not paid, but have not thought the situation sufficiently grave to warrant pronounced opposition.

These have been a part of our pessimistic conclusions, and we are happy to be able to look into the promised land of optimism. Our people appear to again be appreciative of the sacrifice of patriotism, which is the pleasing thing to us. The ex-service men can do without adjusted compensation, and they can celebrate their own Armistice Day their own way, and be satisfied with it, but the public cannot afford to belittle patriotism. It is through that sort of thing that anarchy comes, and the class of our civilization that would be hurt worse by anarchy, is the very class that has been endeavoring to strangle our patriotic impulses. Our principle opposition to socialism is because of its near approach to anarchy. It seems to us that the American system of government approaches the ideal as nearly as it may be approached for the present. Our Armistice

Day celebration will measure our Americanism.

The medical profession is no small part of our thoughtful citizenship. No class of people are more vitally concerned in the success of those principles for which we stand as a people, and no part of the Army was more directly concerned in their defense during the late war.

The Cancer Campaign is being conducted this year on a somewhat different plan than heretofore. The United States has been divided into six regions, and effort will be concentrated in each of these regions for one particular month. Beginning October 15-November 14, the northwestern states will be given attention. Texas is in the southwestern division, with California, Nevada, Utah, Arizona, Colorado, New Mexico, Kansas, Missouri, Oklahoma and Arkansas. It is up to us to keep things moving from November 15 to December 15. The campaign concludes in the New England States April 15-May 14. It is understood, of course, that these periods of intense activity are supposed to be only a part of an everlasting and continuous campaign. The effort is to take advantage of a big and modern psychology. In that we are following the plans of campaigns that have been most successful in the recent past.

The movement is being promoted and coordinated by the American Society for the Control of Cancer, a lay organization, founded and promoted by physicians who have had the most to do with this dreaded disease and who have been most conscious of its ravages. This society has a committee in each state. In Texas, its work is done by the cancer committee of the State Medical Association, of which Dr. I. L. McGlasson of San Antonio is the chairman. The other members of the committee are as follows: Drs. A. O. Singleton, Galveston; J. C. Anderson, Plainview; A. I. Folsom, Dallas, and W. L. Brown, El Paso. This committee has carefully planned the work for the year, and has asked publicity for the following announcement:

"It is the plan of the cancer committee to have each county medical society in the State conduct at least one cancer meeting during cancer month, and it is hoped that most of the societies will conduct many such meetings. It is essential that the medical profession be first brought to a realization of the serious conditions confronting us in our efforts to deal with this one disease. It is essential, further, that they be thoroughly informed on the subject of cancer.

"The committee hopes to induce the medical profession of each of the larger cities to conduct cancer clinics from time to time, and particularly during cancer month, and that the fact be widely advertised. In such clinics precancerous and cancerous lesions should be demonstrated by the best and most experienced teachers available. Doctors must be taught to recognize these lesions, or be informed where their patients suspected of being cancerous or precancerous may go for diagnosis.

"The pastors and congregations of many of our churches will be pleased to co-operate in public cancer meetings. They have been very agreeable to such arrangements heretofore. Where this can be done, and outside speakers are desired, the committee may be able to furnish them, upon application of the local society. The campaign of public education soon to be launched by the State Medical Association, will use cancer as one of its principal subjects.

"There are numerous social and business clubs in the State which will be pleased to co-operate with the medical profession in the cancer movement to the extent of giving places on their respective programs for representatives of county societies who desire to discuss the subject in a popular vein. Among these clubs might be mentioned the Rotary, Lions, Kiwanis, Canopus, Civitans, women's clubs, educational societies, welfare organizations and the like.

"The committee is arranging a list of speakers qualified and willing to address lay audiences, and where there are prospects of securing audiences sufficiently large to warrant the expense, one of these will be furnished by the committee upon application. It is recognized that frequently the best informed physicians are least impressive as public speakers. The committee will endeavor to get speakers who are able to hold their audiences and accomplish the purposes intended. Applications for speakers should be made early, in order that bookings may be made without conflict.

"Each county society is requested to immediately appoint a committee to take this subject in hand, through which the state committee may act and with which it may co-operate."

Little else need be said. Not until both the medical profession and the laity realize that cancer must be diagnosed before it is cancer, or at the latest very soon after it becomes cancer, will any headway be made in our fight on this most insidious and disastrous

disease. Heretofore we have been on the defensive. It is an axiom of war that the defense always loses, sooner or later. We are soldiers in the cause and we cannot escape our obligation to fight, except by desertion, and it will be remembered that to go A. W. O. L. in the face of the enemy is desertion. It is up to us to learn to diagnose and treat cancer, and then to make the people bring their cancers to us in the early stages, when, and only when, they are curable.

The Ravages of Cancer.—If the public understood the true conditions and knew definitely of the ravages of cancer, the shoe of agitation would be on the other foot. In other words, the public would be appealing to the medical profession and not the medical profession to the public. It would immediately become necessary to open cancer clinics for the accommodation of those who desire complete physical examinations, and for the treatment of precancerous and early cancer conditions. Research workers who are struggling along on pittances from individual philanthropists and contributions from foundations, would be swamped with money and overcome with demands for results. No longer would newspapers accept the advertisements of cancer quacks and sure cures for cancer, and the quack doctor with a beautiful but unsupported theory of the cause and consequently the cure, of cancer, would be told to square his theory with scientific facts before seeking to put them in practice. Noninterference with religion would cease to be a principle of government in so far as the care of cancer by non-material means is concerned, and faith healers would not be permitted to induce reliance upon their beliefs to the exclusion of timely relief by the material means we know of. In other words, our protective instincts would be thoroughly aroused, much as would be the case should some calamity threaten, in which a hundred thousand of our people were due to be killed within the calendar year, which is what cancer, very largely a preventable disease, is doing right now.

Carefully compiled statistics and estimates made with equal care, disclose that the death rate is now approximately 90 per 100,000 population. This means, as we have said, approximately 100,000 deaths per year, which is an increase over the last available statistics. These figures are from the Government reports for 1921, which showed a death rate of 86 per 100,000. The statistics for 1920, gave a death rate of 83.4 per 100,000. These statistics are from the registration area, and it is safe to increase them from 20 to 30 per cent. At the beginning of the campaign of publicity by the American Society for the Control of Cancer several years ago, the mortality for malignant diseases was approximately 75,000. The increase in the yearly death rate has been in spite of the magnificent efforts made by this society and the medical profession during these years.

Much discussion has arisen as to whether we are accomplishing anything by all of this effort. The opponents of scientific medicine, and those within our own ranks who hold to peculiar views in the matter of cause and cure of disease, get some comfort (as a matter of argument) from the fact that there has been a steady and continuous increase in the mortality rate. There are those who feel that the incidence of cancer has not in fact been increased, and that, instead, improved diagnostic methods and increased longevity, have brought to light a large percentage of cases that heretofore escaped detection. Undoubtedly this view is largely correct, but it is likewise apparent that we are not thus properly accounting for the very definite annual increment. For one thing, the death rate has not increased for the years below 45, or for women up to 60. The most rapid increase has been in extreme old age. This would seem to carry out the contention that increased longevity is offering increased opportunities for diagnosis. Study has developed the fact, also, that in many deaths attributed to other diseases, such as cardiac and renal involvement, the victims have in fact harbored cancer of the liver, stomach or intestines, which had, because of the more pressing symptomatology of the disease to which death was attributable, escaped detection. No doubt numerous cases of cancer of the lungs have been diagnosed as pulmonary tuberculosis. The detection of the disease in

such cases as these, is fattening our batting average in diagnosis, and putting the statistics over the fence. It is to be hoped that we will, in consideration of these facts, become sufficiently discouraged to get to work and be sufficiently encouraged to keep at it.

One of the serious phases of the cancer situation at the present time, is the cancer charlatan and the patent medicine vendor who would impose upon the credulous public in this most serious matter. Nor may it be said that all of these are without conscience. Some of them are ignorant but well meaning persons who believe in their vaunted cures. It unfortunately happens that this belief does not insure results, and the harm these people do is just as final and as serious as that done by the ghoul who would enlarge his bank account with the last dollars of dying people, who would commit murder by procrastination, and who are without humanitarian instincts. For these there can be no tolerance and with them there can be no compromise. We should call upon the people to rid their minds of the idea that there is any element of competition in our demands that these people be suppressed, or jealousy in our attitude, and see to it that people are not allowed to rush heedlessly to cancer graves. There is no sense in it, and it should be stopped.

We have before us as we write, an advertisement clipped from a highly respected newspaper in Texas, from which we learn that a certain institution in the State is using a wonderful specific for cancer in its most malignant form, which has restored many hundreds of sufferers to perfect health. By the use of this specific and the modern appliances in this institution, cancerous growths are killed without the use of *x*-ray or knife, in from 2 to 5 minutes, and removed in from 5 to 10 days, at a total loss of time incident to treatment in the sanatorium of from 10 to 60 days. A letter from a cancer victim, who was evidently in the last stages of the disease, describing his condition in detail and asking what guarantee of cure could be made in his case, was advised to come to the sanatorium, where full information would be given. Another letter insisting upon a *bona fide* guarantee, brought the reply that the incident was closed. Institutions of this character do not care to deal with people who are as sensible as the writer of this letter evidently was. A newspaper carrying such an advertisement relies for its justification upon its ignorance of the real facts in the case. There is no justification.

Our Knowledge of Cancer, as a matter of fact, is quite extensive. That we do not know the cause of the disease is to be regretted, but that deficiency can easily be overcome, so far as practical results are concerned. If we knew the cause, we would be able, perhaps, to devise a specific, which is the important practical fact to be considered. We know of several specifics now, when applied in time. As we have already said, there are two difficulties to be contended with in this respect, namely, the indisposition of the public to study the problem of cancer and act upon the urge of the medical profession that time be taken by the forelock in its treatment, and the lack of knowledge on the part of the medical profession of the finer points in diagnosis in precancerous and early cancer lesions. These discrepancies are being corrected just as fast as may be. In the meantime, there are certain definitely known facts which are perhaps worth recalling to the attention of our readers.

The medical profession knows all that is definitely known about cancer at this time, and can cure the disease if it is presented early. It can do more by way of treatment than any other group in the world.

In its early stages, the symptoms of cancer do not differ from the symptoms of many diseases and conditions which are benign and harmless. Were this not true, the danger would not be so great. If there were definite symptoms which invariably lead to the diagnosis of cancer, the simple facts in the case could be imparted to the public and the public would heed the warning.

What the medical profession has done by way of prevention in typhoid fever, yellow fever and smallpox can be done in cancer, for all practical purposes, at the present time, and surely will be done ideally at some future time.

Pain as a symptom of cancer is rarely present in the early stages of the disease. Pain in cancer is the ill wind that blows good. People with painful cancers consult physicians much sooner than those harboring the painless variety. Pain brings more people to the doctor for early diagnosis than all of the other causes combined.

The abdomen is particularly liable to deceive in the matter of cancer, because of the frequent occurrence there of cancer symptoms which do not mean anything in particular. People are accustomed to stomach, bowel, abdominal and pelvic disturbances. They should be taught that when any of these simple and apparently harmless symptoms persist, a good diagnostician should be consulted.

Any sort of lump in the breast of a woman over 20 years of age, is potentially dangerous.

Any unusual, persistent discharge from any organ of the body, may mean cancer,

particularly in women, and more particularly in women past 40.

Any persistent sore on any part of the body, or persistent irritation to any part of the body, should be given attention without delay.

Pain or swelling in bones or joints should receive competent attention. Cancers here are very dangerous, and are apt to escape detection.

While it is true that cancer does not always follow conditions which we know frequently do produce it, there is no way to tell who is who or which is which. It is safer to take no chances, and it is a comparatively easy matter to remove a precancerous lesion or to avoid the irritation which sometimes produces cancer. The matter of choice of agents, whether the knife, the cautery, *x*-ray or radium, is with the doctor, and it is up to the doctor to know which is best in any given case.

Recent experiments tend to the conclusion that food is not a factor in the cause or existence of cancer. Careful investigation seems to uphold the view that the disease is neither infectious nor contagious. While cancer is not directly inherited, experimental breeding of the lower animals has lead to the development of types peculiarly liable to the disease, and other types peculiarly resistant to it. No fact has developed in rather extensive investigations, which will support the idea that there are houses in which cancer is peculiarly liable to occur.

None of the recently advertised cures for cancer have so far made good their claims. There have been numerous of these, ranging in type from colloidal preparations to serums. The effort of Lord Atholstan of Canada, to discover a cure for cancer by offering a reward of $100,000 to the discoverer, resulted in two thousand applications for the prize in less than six months, practically all of which were without rhyme or reason from a scientific or practical standpoint. A large proportion of these were from faith healers and the like. As an example of the fantastic suggestions made, the use of snails as a diet, may be mentioned. The upshot of this effort is, that Lord Atholstan has offered an additional $100,000 to be devoted to the study of the disease. He would have been saved considerable trouble had he done this at first, and certainly his chances for success are much better. He evidently does not expect to part with the first hundred thousand.

Cancer quacks and fake remedies for cancer, will thrive on the publicity necessary to bring the public to a realization of its predicament as relates to the incidence of cancer, and this danger must be guarded against.

The Red Cross Calls.—The Red Cross makes its annual bow to its public, and smilingly extends the annual invitation to come across. In other words, the annual roll call is on, and will continue actively the search for membership until November 29, when it will close for a year. Surely, so soon after the wonderful services rendered by the Red Cross to suffering humanity in the Japanese disaster, there will be no holding back the necessary funds with which to maintain the organization on an active, operating basis. No self-respecting American citizen who is financially able to spend $1.00 without some direct and material returns therefrom, can afford to have his name left off the roll of membership of this great organization. It will be recalled that immediately following the close of the war, when frantic efforts were being made to return to normalcy in every line of endeavor, there was a disposition to let the Red Cross rest in peace. Many of those who had been most active in its support and most appreciative of its effort, were inclined to feel that since the exigency of war had ceased to urge, there was no need for great activities and the maintenance of such an elaborate organization. We have since come to realize that it is necessary to maintain the organization to a certain extent, else much valuable time will be lost in the face of the next supreme emergency that arises, and much needless expense in expanding with sufficient promptness to meet the occasion. It was found that there was much to be done for the ex-service men, which governmental agencies, because of their inflexibility, could not do. The fact that a government cannot function properly without hard and fast rules and much red tape, has been admirably illustrated by the operations of the much criticised Veterans' Bureau. It was determined that there was much supplemental work by way of health education that could be done to advantage. There were, in fact, so many avenues of activity open, that it soon became apparent that it should not be allowed to slump to any

appreciable extent, even though there was no war to engage its attention. The promptness and efficiency with which the Japanese emergency was met, alone justifies the maintenance of the organization on an operative basis.

The rose generally is not without its thorn. In our zeal to serve, we have not always followed instructions, in the Red Cross as elsewhere. This has brought criticism upon us from a variety of sources, most of which has not been justified by fact. The Red Cross was chartered by the Federal Government for the following purposes:

"To furnish volunteer aid to the sick and wounded of armies in time of war;

"To act in matters of voluntary relief and in accord with military and naval authorities as a medium of communication between the people of the United States and their Army and Navy;

"To carry on a system of national and international relief in times of peace and to apply the same in mitigating the sufferings caused by pestilence, famine, fire, floods and other great national calamities, and to devise and carry on measures for preventing the same."

The war service of the Red Cross requires no discussion. The peace time program, according to official announcement, is based on the following underlying principles, which we quote from the *Red Cross Courier:*

"1. The primary obligation of the American Red Cross is to disabled ex-service men. No peace-time work may be undertaken by a Chapter or Branch unless the work of disabled soldiers and sailors is being carried on satisfactorily.

"2. The service must be selected by the Chapter or Branch according to the needs of the local community, after a study of local conditions.

"3. Red Cross service must not duplicate the work of existing agencies.

"4. It must be carried on in accordance with Red Cross standards. It is for this reason that certain limitations have been made in the kind of service which Chapters and Branches can carry on.

"5. The Chapter work must be directed by a strong Executive Committee, which takes responsibility for the development of the service in consultation with National Headquarters.

"6. It cannot be made too clear that Red Cross peace-time service is community service, chosen, supported and directed locally. The National organization, through its knowledge of the entire country, makes possible an exchange of experience and the formulation of high standards."

It should be noted that there is to be no *duplication of the work of existing agencies.* It will also be noticed that peace time service is *community service, directed locally.* These facts cannot be stressed too much. They have a bearing in the light of some of the criticism that has come to the Red Cross.

Last year, at St. Louis, the House of Delegates of the American Medical Association officially notified those in authority in the Red Cross, that in the opinion of the medical profession, its public health activities were no longer necessary, and that, continued, they would likely promote community irresponsibility and helplessness. At San Francisco this year, the House of Delegates declared that in the emergency of war, there was a demand for Red Cross aid in the relief of disease and accident, but that at the present time there is no need of the entrance of the organization into the field of medicine or community clinic activities. It is difficult to square this action with the announced plans and purposes of the Red Cross in regard to its health activities. The truth of the situation is, there is no objection to the health activities of the Red Cross if its announced plans are carried out consistently. The trouble is, these activities being essentially local, and not so directly under the control of the organization as they might be, get out of hand. Committees, which are often largely, if not exclusively, composed of laymen, in their enthusiasm and earnest desire to serve, frequently interfere with the practice of medicine, and frequently go so far in extending aid as to lead the people to depend upon Red Cross instead of upon themselves. Both are bad, and neither should be allowed. Such a committee, not under the direction of the Red Cross, however, recently, in Texas, removed from its personnel the physicians who had been originally included for technical guidance, because they (the physicians) had objected to activities of this sort. The *New York Health News* recently had the following complaint to make:

" 'What can we do about it?' say these physicians. The organization which employ them must show what these nurses have accomplished in order to get the financial support to continue the work. If we complain, it is believed that the basis of our complaint is that we are afraid we will lose fees through such gratuitous advice. As a matter of fact, we may be treating the family at a most nominal charge or without charge, and the real help we could and should give such family is nullified because the family follows the advice of the nursing service, which is free, and discounts its real need of medical care. In many instances these nurses foster the idea that a good nurse is worth more than a physician. They entirely overlook the fact that a good nurse and a physician working together in their proper relations get better results than either alone can get. Because of this state of affairs we are not in favor of public health nurses."

A physician on the faculty of Johns Hopkins School of Public Health, in an address delivered in New York recently, before a conference of health officers, had the following to say, according to the *California State Journal of Medicine:*

"It seems probable that for rural areas at least, medical health service of the future will center about the county hospital. Such a hospital, with a whole-time staff on a salary basis, with its attached out clinics, will be the chief source of medical service. To it will come all the seriously sick of the county,

all maternity cases, all obscure chronic complaints, for diagnosis by every available means and for treatment, the best that can be had. Out from the hospital will go the visiting nurses, covering the whole county, doing what we know as public health nursing, as well as ordinary visiting nursing, if there is any distinction between the two. The private practitioners of the county will be mainly concerned with the health supervision of their patients. They will probably be paid on an annual fee basis and will have approximately 1,000 patients each. Everyone will be under constant supervision. There will be no need of much of what we ordinarily call health work. It will be the routine, normal activity of the whole medical service. The medical director of the county will be in charge of the whole organization, under a board of trustees. The whole will be supported in part from State and local funds, but largely from the payments of patients. The savings in medical and surgical fees which would result from having a single consulting physician and a single surgeon, kept constantly busy with an even flow of material, instead of having several practicing over a large area and spending most of their time going to and fro as at present, would be great."

Commenting on the disposition of the average layman to socialize the practice of medicine, the *Journal of the Kansas Medical Society* observes, in part, as follows:

"There is, however, a very rapidly growing host of would-be, unofficial public servants, whose good intentions are too frequently misdirected and whose possible beneficent endeavors are discounted and minimized by the indirectness of their attack upon the conditions they hope to remedy. Of recent years the public health and welfare has been the most popular and promising field for such endeavors. There are associations, commissions and conferences, too numerous to mention, largely dominated by laymen—well-meaning, benevolent capitalists, and others, vying with each other in their efforts to mitigate some of the unfortunate afflictions of mankind. Hundreds of thousands of dollars are spent in publicity propaganda, surveys and compilation of data, with little or no effect upon the object of attack.

"A National Association for the Alleviation of Corns and Bunions in the Laboring Classes, or a Pan-American Commission on the Preservation of the Pedal Arch, may spend a few millions in conducting a survey to determine the economic loss occasioned by these disabilities of the feet. Information of considerable value, no doubt—to some one—but not likely to reach the people most concerned. Yet it is possible that their information may convince the management of some great industry that its employees should be advised to wear better and better fitted shoes. This is not an exaggerated illustration of the methods of procedure adopted by a good many of these organized groups."

Quite a while ago, when the subject of "State Medicine" was being so earnestly agitated, the *Bulletin* of the Academy of Medicine of Cleveland (Ohio), commented facetiously, as follows:

"Uplifting seems to be a very lucrative occupation, so the Academy of Medicine is going to enter the uplift field.

"It is going to take the interests of the struggling proletariat to its bosom.

"It is going to promote two great state-wide campaigns.

"One will be known as 'Compulsory Legal Insurance,' and the other will be 'Compulsory Food Insurance.' Every ounce of energy the Academy has will be expended toward putting these two fine insurance bills on the statute books, to the end that every common man can get his legal service and his food at a very small price, fixed by law.

"As the State Legislature is almost entirely made up of lawyers and farmers, they will readily understand the many fine features of these great bills; and being elected and sworn to fight to the last ditch for the interests of the 'Commun Peepul' they will, of course, pass these bills without delay.

"As soon as these bills are on the statute books the Academy of Medicine will undertake a third, great, unselfish campaign, or drive, as one might say, in the cause of the common man.

"This great campaign will be for 'Compulsory Labor Insurance.'

"This will mean that when the coal miners and the railroad men and the coal teamsters go on strike and your pipes freeze up and bust in the winter time, you can call the plumber on the phone; he will rush to your house in his high-powered automobile and fix everything up in a jiffy—at a very small price, fixed by law.

"Isn't it wonderful? Simply grand!

"So tell all your friends to join the cause of the common man.

"Send one dollar (do it now), and you will be enrolled as a life member in the great Russo-American Society for the Prevention of Everything; *besides*, you will get a finely engraved certificate of membership, and your name will be engrossed for one year on the subscription list of our monthly magazine, 'The Mess.'

"Look up—Lift up (but don't forget to send the dollar)."

Getting back to the health activities of the Red Cross, we may observe that the abuses referred to above will be impossible if the plans of that organization are carried out. A committee of imminent physicians, several of them on the firing line in the practice of medicine (which is not always the case), recently threshed out the entire problem, and laid their conclusions before the management of the Red Cross. They had been appointed for this service by the Red Cross, appreciating fully the viewpoint of the medical profession in voicing criticism of its health activities. The organization of classes of home hygiene, the care of sick, nutrition, first aid and life saving; the development in the schools of health habits; the enrollment of qualified nurses; the organized development of public health nursing in rural and semi-rural districts, and the development and standardizing of the training of public health nurses, were the principal items in the report of the committee. Nowhere does it appear that the Red Cross is to conduct *clinics* and do *bedside nursing*, or in any manner, shape or form, interfere with the work of the private nurse or the physician in their life saving service. This is done, no doubt, and it is up to the medical profession at large to see that it is not done. That does not mean that support is to be withdrawn from the organization. We should treat the

situation as we would cancer—take it in the preliminary or early stages, and cut it out.

The Conference on Enforcement of the Medical Practice Act was organized at Dallas, October 20, following a discussion of the rather shameful conditions in Texas in that regard at this particular time, by representatives of the State Board of Health, the State Board of Medical Examiners, the state associations of the several schools of medicine which have representation on the Board of Medical Examiners, and are recognized by the law, and county and city health officers. The avowed purpose of this organization, which has taken the form of the familiar "conference," is to encourage local officials to enforce the medical practice act at least on a par with the laws pertaining to bootlegging, gambling and the like. It was decided to accomplish this result by requesting the proper officials of courts to lay the subject before grand juries. The conference was authorized to proffer the assistance of the medical profession as a whole, health boards and officials and the Board of Medical Examiners, in efforts to enforce the law.

The discussion developed the fact that in several localities, enforcement officers claim that the law can not be enforced because it neither enjoys the support nor engages the attention of the public, it being considered that this law is the result of a row between the Chiropractors and Christian Scientists, principally, on the one hand, and the legalized practitioners of medicine of the several so-called schools, on the other. It appears that the injunction feature in the amended medical practice act has about eliminated the excuse that it does no good to prosecute violators of this law, on the ground that conviction merely taxes the guilty and does not stop their practices. Formerly, prosecution was not *effective;* now it is not *possible.* It was pointed out in the discussion that the educational campaign to be put on by the State Medical Association, can be used to popularize this law and make convictions possible. The state organizations of the minor schools pledged their efforts in the same direction.

A strange situation developed by the conference was that nowhere in either the medical practice act or the health laws of the State, is it made the duty of either the Board of Health or the Board of Medical Examiners to look after the enforcement of this law. The obligation of both, however, was recognized, and in the absence of support by the State, the medical profession has offered to fill the breach.

The A. M. A. Reduces Dues.—The Board of Trustees of the Americal Medical Association recently authorized the announcement that the annual fellowship dues, which includes subscription to *The Journal of the A. M. A.,* would be reduced to $5.00, beginning January 1, 1924.

It will be remembered that fellowship dues in the American Medical Association were raised some two years ago, by a called session of the House of Delegates, in order to meet a financial emergency presented at that time, in the matter of increase in the cost of labor and material. It was announced at the time that this increase was temporary, and that a reduction to the usual amount would be made in a short while. A likelihood of such contingencies arising in the future, incidentally, has brought about a change of the laws of the Association, wherein the Board of Trustees are authorized to increase the dues to the extent of $1.00 per annum, on its own initiative, and when in its own judgment it is wise to do so, and to reduce them in like manner and to the same extent.

Medical Economics—A New Publication.—We are in receipt of a very readable little publication called "Medical Economics," cheaply prepared, but containing considerable readable matter. It is to be sent each month to physicians who will permit it, without charge. Its primary purpose is to "furnish the medical profession a forum for topics pertaining to the business problems of their lives and practice." It is held to be entirely "independent of any influence—financial or professional." It derives its revenue from advertising, concerning which the publishers have the following to say: "The advertising will be imminently ethical and only those houses will be represented whose products have gained the confidence of the physician." Whether or not this promise is being carried out may be judged from the fact that the very first issue advertises whirling spray, nujol, aphrodisiac tablets (Breon), alkalol, agarol and antiphlogistine. Throughout the reading pages is much propaganda in the interest of organized medicine, which is very good. There is an article by Senator Copeland well worth reading. For this reason it is to be regretted that we cannot recommend this publication to our readers. Our judgment is that this publication intends to do as it says it will do, get its revenue from its advertising, and that it will be truly independent of professional influence. The reading pages will most certainly reflect the policy governing the advertising pages, whether or not it is so intended.

ORIGINAL ARTICLES

THE CANCER PROBLEM IN TEXAS.*

BY

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SAN ANTONIO, TEXAS.

It is customary for institutions and organizations of all kinds to arrange their business into periods of fiscal years. As the fiscal year draws to a close, books are balanced, the activities are surveyed in retrospect, successes are noted, failures are examined as to cause, and from all the information assembled a basis is provided for the preparations for the next year. Everything that wisdom, experience or prudence, may counsel for this process of accounting is important, but if any one element of the undertaking is more important than another, it is proper analysis of the mistakes that have impeded progress or restricted success.

The State Medical Association proves no exception to the rule of the business world. Our year of activity is approaching its end and we are here to survey the field of its endeavor and to canvass the results of our labor; and especially to discover, if we can, the mistakes or failures that have tended to retard our advance. The true investigator does not hesitate to confess error. We undoubtedly profit more by our failures than by our successes. Successful work cares for itself, but failures demand correction, and corrections means study and labor. This means the acquisition of knowledge, and knowledge means fewer failures. It is a wheel within a wheel.

I think it would be worth while if one annual meeting were devoted to our failures. In other words, let others see us as we see ourselves. I admit it would have to be in executive session. But think of the satisfaction of finding a solution of some of our perplexing problems! It is possible that this afternoon your fellow seated next to you can unravel some of your knottiest problems. Have you had a heart-to-heart talk with him? It is possible that you can return the favor by helping him in some of his difficulties.

We do not derive all the benefits of our annual meetings from the floor. Not infrequently we get our most valuable information from informal discussions. Some friend drops a remark that supplies the answer that has so far eluded us. It is in such a spirit of humility, in such a yearning for co-operation in the performance of a mighty task, that I have undertaken the labors devolving upon the chairman of your committee on the suppression of cancer; and it is in such a spirit of candor that I submit for your consideration, the report of the committee's activities.

As chairman of this committee, I succeeded our incoming President, Dr. A. C. Scott. I had the honor and pleasure of serving with him during one year of his chairmanship. I found that he had laid the foundation for our work securely. Our program had received such an impetus from him that it was a recognized and accepted force. I have had the good fortune to have him on my committee, and his thorough knowledge of the work, his untiring energy and willingness to respond at all times, I am pleased most heartily to commend. I desire publicly to acknowledge that most of the credit for this year's work is his. Our President, Dr. Joe Becton, has given all encouragement and aid within his power, and the Councilors have contributed invaluable aid. Space will not permit the naming of hundreds of individuals who have given time and effort in this great work. Nevertheless, to one and all, the committee extends its thanks. Special praise should be given Dr. Holman Taylor for efficient and open-hearted help at all times.

In this work, distress signs have been raised, both by the profession and the laity, calling for any aid in the task. Many physicians have become discouraged. To the laity a diagnosis of cancer had always been synonymous with death in a horrible form. This feeling of hopelessness on the part of the public created our worst difficulties. Patients would conceal their symptoms as long as possible, dreading so fatal a diagnosis, and ignorant that they were actually creating a hopeless situation out of an originally favorable one. Physicians and surgeons, seeing only late cases and having a correspondingly high mortality, were obviously depressed. They could not communicate to the patient a hope they themselves could not feel. In this deplorable situation the profession soon found that the only hope for the cancer patient was an education that would lead to an early diagnosis and immediate radical treatment. This all of you know.

Another of our great difficulties lay in our seeming failure to assemble complete statistics. We have written many of the larger institutions in the United States and many institutions and surgeons in Texas. No satisfactory statistics were available, but without exception our inquiries disclosed that patients were consulting their physicians earlier, and the cases were, therefore, more amenable to treatment.

*Read before the General Session, State Medical Association of Texas, Fort Worth, May 9, 1923.

Statistics gathered by Hoffman and published in the *Boston Medical and Surgical Journal*, are worth while and I quote therefrom in detail:

"I may, to advantage, review very briefly some recent cancer statistics, which I have caused to be brought together for the present purpose. I have combined the returns for 38 cities, which have been made available to me from 1912 to 1921, inclusive. These cities had at the end of the period, a total population of over twenty-two million people, or about one-fifth of the entire population of the continental United States. They may, therefore, be safely relied upon as representative of the country at large.

"During the period 1912-1915 these cities had a cancer death rate of 87.9 per hundred thousand population. During the next five years the rate increased to 95.4 per hundred thousand, and during 1921 to 101.5. This rate is the highest which has ever been reached collectively for the large cities of this country. During the first five years, there were thirteen such cities, but during 1921 twenty cities had exceeded the rate of 100 per hundred thousand, which, by every standard of normal mortality, must be looked upon as alarming. It is an amazing evidence of effrontery and reckless audacity on the part of those who are familiar with statistical facts and statistical methods of research to deny, under the circumstances stated, that cancer is actually and relatively, as well as alarmingly on the increase in this country. No one familiar with the facts of medical education and medical progress will maintain that during eleven years such changes in diagnostic methods have been made, as can account for more than a small fraction of this suggestive increase in an average rate from 88 to 101 per hundred thousand population.

"The city which has always had an excessively high rate is San Francisco. During 1916-1920 it reported a rate of 122.3. During the five years, 1916-1920, the San Francisco rate increased to 142.2, while during the last year under review, the rate was 151.8 per one hundred thousand, or one of the very highest rates ever reached by any community in this country. During 1922 the rate was 161.8 per one hundred thousand. Actual deaths from cancer increased from 790 in 1921 to 857 in 1922!

"Other cities with extraordinary high death rates from cancer are Albany, N. Y.; Boston, Mass.; Cincinnati, Ohio; Des Moines, Iowa; Los Angeles, Calif.; Philadelphia, Pa.; Providence, R. I.; Sacramento, Cal.; St. Joseph, Mo., and Springfield, Ill. All of these cities have rates in excess of 120 per hundred thousand of population."

This should be sufficient to arouse both the profession and the public. Much is being done, but a concentrated and determined effort is the only hope for relief of this discouraging situation. Statistics are always misleading, and these statistics could be very discouraging if we did not know there are counterbalancing facts that are not revealed by statistics. By this I mean the many cases of precancerous lesions that are cured. This is demonstrated by individual work, but it is doubtful that statistics will be available showing the exact amount of good being done in that way. These statistics are, however, sufficiently appalling and the demands are extraordinarily urgent.

It has been somewhat difficult to handle this subject without creating a certain amount of hysteria. This, though, does not appear to be a disturbing factor. Most of the men recognize this and handle their patients and friends carefully. Cancer-phobias are sometimes met with, and are very difficult to control. I saw one patient who had severely burned her breast with a caustic through a mistaken idea that she had a cancer. Care should be exercised to prevent or subdue such groundless fears. The plan of attack necessarily calls for this, as cancer cannot be controlled by one man or group of men. A city health officer can control typhoid, and see that pure milk is delivered to the homes, and school physicians can vaccinate against small-pox, but the cancer problem is not a one-man problem. Every individual physician must be alive to the possibilities of cancer, and each individual must know that he should consult his physician immediately on discovering conditions suggestive of malignancy. Every physician must be up and doing, and every patient must be handled individually. Each family group or political subdivision, may read its morning paper and, admitting competent health authorities, not consider its milk, its water or other things involved in the family breakfast; but the bleeding uterus, or the breast in which a tumor is developing, are all individual affairs, both for the patient and the physician.

Every physician must be able properly to diagnose and evaluate lesions that are potential malignancies. Every individual should be sufficiently educated on this subject to lead him to consult his physician immediately on discovering such deviations from the normal.

In our efforts to meet this problem errors will be made. These can be prevented only by painstaking care and study. Many precancerous lesions can be removed by minor surgery, leaving functioning organs. This is a time for conservative treatment. We cannot make this statement too strong. I know of a case, a young lady, 21 years of age, who had a complete radical operation on both breasts. I do not believe that this can be justified. Hysterectomies undoubtedly are done unnecessarily.

We should know that every growth in the breast is not cancer; that every bleeding uterus, or enlarged, ulcerated cervix is not cancer; that every stomach ulcer is not carcinoma; that every mole will not develop into an epithelioma, and that every bone tumor is not osteo-sarcoma. We must educate ourselves up to the point of making differentia-

tions. I do not contend that it can always be done, but knowledge plus common sense will help us to a safe and sane line in our attack on these problems.

The errors on the other side are disastrous. Carefully taken histories indicate that some of us are careless in our examinations. A case in point occurs to me: A woman was referred to me for radium treatment. She was 42 years of age and the mother of 5 children. There had been no miscarriages, no unusual gestational disturbances, no instrumental delivery. There had been irregular bleeding for 8 years, with leucorrhea more or less constant during the entire period. Five years later she consulted her physician. According to the patient's statement, her physician did not examine her, but prescribed douches and suppositories. One year later (six years after onset), she consulted another physician who made a diagnosis of cancer and advised immediate operation. This she refused. Two years later (eight years after the onset of symptoms), she consulted a surgeon, who refused to operate and referred her for radium treatment, which was not given, owing to the hopelessness of the case. The patient died one month later.

Three lessons can be drawn from this case: (1) Failure to consult the physician in time; (2) failure of the first physician to measure up to the standards of his profession, and (3) failure on the part of the patient to heed obviously competent advice.

Such cases are getting rare, however. A needless examination does no harm. A neglected examination may be fatal. The thousands of hopless patients we see who have sinned away their day of grace by procrastination, are to be pitied. It is our duty to see that this number grows less day by day.

Of the other thousands who have lost their chance through blind belief in some religious fanaticism, or having their back twisted, what can we say? How can we reach them? For reach them we must. The dignity and traditions of our profession demand that we meet this problem. How? I have no ready answer. But have we progressed with the times? Has it not been said that we should fight the devil with fire? What are the weapons of the imposter? First, I should unhesitatingly place publicity. Abrams, chiropractic, magnetic healers, christian science, *et al.*, would not last long if newspapers and magazines would refuse them space in their news columns and advertising pages. Without this aid they would have died aborning. We must admit that we can control neither news nor advertising space. The only logical thing, then, is to create a counteracting publicity. Fight the devil with fire. These fanatics and fakers thrive on the 10 or 15 per cent of patients who could get well with or without any treatment, and who give testimonials, which are notoriously easy to get, to inveigle as many of the remaining 80 to 85 per cent who are in need of scientific aid, as possible. Their publicity, strange to say, does not call attention to the thousands of death certificates we must sign for them, although we only see their patients a few hours preceding dissolution.

We can do nothing until the patient consults us. The earlier in the disease this consultation is had, the more favorable the prognosis. Then, anything that encourages this delay must be eradicated. It appears that a properly conducted publicity campaign, setting forth proven scientific facts, is the only weapon. At first thought this is distasteful. But the Apostle of Peace, who taught "Peace on earth, good will toward men," when the Temple was being defiled, became militant and drove the money changers into the street. Are we not justified is assuming a militant attitude toward the defilers of our beloved profession?

We should bear always in mind that since the beginning of medicine the physician has been concerned more with prevention than cure, and that the principle that has underlain the progress of the medical science, from Hypocrates to the present day, is the principle by the application of which our greatest achievement shall come in the control of the cancer scourge. Explorations into ancient lore reveal interesting analogies to modern thought along medical lines, and prove that in the olden times the people were wrestling with the problems that harass us today. The Fifth Chapter of First Samuel, of the Old Bible, indicates the possession in that early dawn of Jewish civilization of a knowledge, although empiric, of the etiology of bubonic plague, that probably included everything we know today except its bacteriology.

Numbers, 31:23, gives very clear instructions on fighting disease by fire—probably the first authentic history of sterilization as used today. The ancients knew that heat was a destroyer of morbid infection.

Leviticus, 15:13, teaches that running water is the cleanest and purest for ablutions and other purposes, and specifically urges that one should always bathe in running water.

Numbers, 19:11, forbids contact with the dead, which can easily mean that they had a

wholesome fear of contagion, and stringent purification is prescribed for violation of this law.

Leviticus, 7:23, demands an examination of carcasses so that diseased cattle may be rejected as food—the forerunner of the pure food laws of today.

Deuteronomy, 23:13, gives the first history of sewage disposal. This is a clear and emphatic order that all human sewage must be buried.

The sanitation and hygiene of the Bible was, as was natural, amplified and developed in the Talmud, fifteen hundred years intervening between the Mosaic Law and the Mishnaic Rabbis. It should be remembered that the Talmud is a commentary on the Pentateuch or Written Law, which contains the history, thought, manners and customs of the people from every standpoint during the better part of a thousand years, from the Babylonian Captivity to the Fifth Century, A. D.

The "rothon" spoken of in Kethibh, 77:2, which can be taken to mean either scarlet fever or measles, was an epidemic in Babylon at this time. It is described as a disease in which the symptoms are lachrymose eyes and running nostrils. This description we can easily recognize from our experience with measles.

The Yoma, 83:2, indicates a knowledge of hydrophobia equal to our present day conception of the disease; they knew well the dangers of contact with rabid dogs. "There are five symptoms in a rabid dog; its mouth is continually open, its saliva flows freely, its ears dangle, its tail is held between its legs, and it walks in by-paths. According to Rabbi Samuel, the animal is to be destroyed by means of an arrow or a knife, thrown at it; but personal contact with it must be shunned. Injury is the result of contact; death that of a bite."

Modern medical history is replete with achievements in preventive medicine. The control of yellow fever and bubonic plague, the advancement in malarial control, knowledge of prevention of typhoid fever, vaccination against small-pox, reduction of tuberculosis mortality, care of infants, promising outlook for the leper, and other accomplishments too numerous to mention, have done more for the human race than has the work of any other branch of science.

Unfortunately, this work is not constantly before the public, as are other scientific discoveries. The people see and use the telephone many times daily, and all schoolboys can tell of Alexander Graham Bell. But when we sterilize a wound and allow it to heal by first intention, do they think of Lord Lister? They send telegrams, and school histories tell them of Prof. S. F. B. Morse. But do they know anything of Pasteur and why they are immunized against small-pox?

By street signs, newspaper articles and page ads, we are forced to know of that wonderful sect called chiropractors. But are we told why the average span of life has increased from 32 to 44 years? Some august statesman, with the world's economic troubles weighing heavily on his shoulders, rises up in legislative halls and solemnly declares that an uneducated man with three months alleged training, should be on a par with Hypocrates, Galen, Lister, Pasteur, Marian Sims, Gorgas and thousands of other men who have left their imprint on the pages of medical history. Can he tell us why his family can be safe from typhoid fever, yellow fever, small-pox and a host of other preventable diseases? Herein lies another of the great difficulties confronting us—one that must be removed if we are to gain the success we are seeking.

But, despite all of this, no one will deny that our State Medical Association is making progress every year. We are applying the Golden Rule to our conferes, our clientele and our State, in a way that compares favorably with any year in our history.

The history of the State Medical Association is so closely interwoven with the history of all the other magnificent undertakings for the welfare of Texas people that their achievements merge. From a few pioneers, who recognized the necessity of organized strength, we have grown a legion; from that time until the present, the efforts of the men of our profession have been nothing less than heroic. These attainments would parallel, if not excel, those of any other profession, in the relief of human ills and the consequences thereof.

The statement, while gratifying in the extreme, does not mean that we have not made mistakes, for we have. We have been guilty of sins of omissions and commission; but as true scientists we should and will profit by these mistakes, taking intelligent account of every error, profiting by the lesson they bring, and advance slowly and perhaps painfully, but nevertheless surely, toward the ideal that leads us on; for it is just as true in scientific progress as in the development of moral or intellectual culture that

"———through the ages one increasing purpose runs,
And thoughts of men are widened with the process of the suns;"

and today, as firmly as ever in the history of the world, we hold it a truth that

"———with him who sings
To one clear harp in divers tones,
That men may rise on stepping-stones
Of their dead selves to higher things."

In our report, our committee is suggesting that our state program for meeting the cancer problem be made as nearly as possible to conform to that of the National Society for Cancer Control, with a few changes. Cancer Week is a splendid thing, and should be encouraged on all occasions, but we should not think that our work ends there. It must be a fifty-two week campaign. Many county societies do not meet during this designated week. Obviously, then, they must have their cancer programs some other time. That time can be when most convenient. More than one should be held each year.

The programs should be divided somewhat as follows: (1) Precancerous Lesions, (2) Cancerous Lesions, (3) Cancer Metasteses, and (4) Treatment. These subjects can be subdivided so that essayists best fitted for special work can be used, each in his own domain, and all contributing their knowledge to the general problem of cancer. This can easily be made a post-graduate study of cancer.

The public can be cared for in many ways. Acknowledgment is here made of the valuable aid from the Rotary, Kiwanis, Lions, Canopus and many other civic organizations, in reaching the public during the past year. They will do just as much for cancer education in the future, and should be invited to participate in this great work. Newspapers have been quite friendly to us, and should be used at every opportunity.

Remember Fellows, the responsibility is yours. The cancer committee is only a steering committee. We can and are trying to reach as many people as possible. But each of you can reach as many. If every member of the State Medical Association works, every citizen of this great State will know about cancer and how to meet it.

PRIMARY CARCINOMA OF THE URETER.

To the thirty-two cases of carcinoma of the ureter recorded in the literature, Louise H. Meeker and Joseph F. McCarthy, New York (*Journal A. M. A.*, July 14, 1923), add one case. The origin and nature of the fatal illness was primary carcinoma of the right ureter. Secondary and terminal factors were generalized metastases to the liver, pericardium, lungs, spleen, pancreas, left kidney, lymph nodes and skin. There was right hydronephrosis. Anatomic findings consisted of dense adhesions about the tumor; right external iliac vessels embedded in the tumor, and a polypoid nodule, 1 by 2 mm., in the bladder mucosa near the orifice of the right ureter. Concerning the histogenesis of this tumor, the evidence indicates that it had developed from the epithelium lining the ureter.

CANCER PROPAGANDA AND RESULTS.*

BY

SIDNEY J. WILSON, M. D.,
FORT WORTH, TEXAS.

In this enlightened age it is hard for one to believe that witchcraft at one time almost smothered the light of education, and that ignorance and superstition swept over the face of the earth as a fire sweeps the open country. It is true that ignorance and superstition are still prevalent, but in a lesser degree. The truth has survived and the world progress has advanced by leaps and bounds during the last half century.

When we, who are students of the medical sciences, pause to look backward, we are proud of the achievements of the medical profession, and justly so, for it has, in many respects, not only kept abreast of the times but forged far ahead. The average student of medicine has consecrated his life, without hope of financial gain, to the cause of mankind. He has devoted his life and energy to the eradication of disease in order that his fellow man may dwell in peace and contentment. The profession as a whole has been too modest in teaching health to the laity. Unfortunately, in many instances, the lay press has conveyed the wrong idea on scientific subjects, or the element of professional jealousy has held in check scientific facts that should have been given the public.

Within the last half century we have almost eradicated certain diseases from the civilized world by teaching prophylactic measures, but there yet remains a disease which annually takes its toll of thousands of lives, a vast majority of which would have lasted their alloted time had the victims known a few simple facts concerning prevention. The disease I speak of is cancer, the cause of which we physicians know little, and the effects of which the public knows nothing. To the average layman cancer is a disease that should not be molested until pain forces its host to seek relief. The innocent-appearing nodule, the persistent fissure, or chronic irritation about a new growth, hasn't the slightest significance; pain is the only symptom that means danger.

Our limited knowledge of the cause of cancer is in all probability the reason why the medical profession has not attempted to instruct the public as it should on this subject. In the last few years our viewpoint has changed. Not only do we seek to eliminate

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 10, 1923.

the mystery of medicine, but we have attempted to take a reluctant public into our confidence and impart to it that practical knowledge that is worth while in an every day existence.

At various times in the past, suitable articles have appeared in the lay press, and they have borne fruit for, strange as it is, the average person will give more credence to a newspaper article than they will to their lifelong physician and friend. No one can dispute the power of the press, and the American Society for the Control of Cancer, a few years ago directed a small effort by setting aside one week each year for the purpose of broadcasting propaganda on cancer. During this brief period, suitable articles were given to daily papers, magazines and various periodicals. One week each year is only a small step in the right direction. This effort, small as it is, has produced wonderful results. Thousands of lives have been prolonged to their allotted time. In an effort to gain some idea as to the effect of the Cancer Week movement, I sent twenty-five letters of inquiry to as many doctors in other States. They were unanimous in saying that immediately following this publicity there was a rush of cancerous and precancerous patients seeking attention, but very shortly afterward this passed to a normal routine.

I think we should commend the American Society for the Control of Cancer for its efforts, and at the same time urge that its program be extended to cover not one week, but every week in the year, in which the public, through the press, will be constantly reminded of the dangers of another disease that to a great extent is preventable.

ABSTRACT OF DISCUSSION.

Dr. W. S. Horn, Fort Worth: Dr. Wilson hit the keynote, I think, of a lot of our medical foolishness, when he said that the public pays more attention to an article or story, or an advertisement in a newspaper than they do to what you tell them, and that is true. The trouble is, the public is so ignorant and so superstitious still, that they hang on to witchcraft and first one thing and then another—in one form or another, and they suffer the consequences. We have all had people come to us for advice, and when asked why they didn't come sooner, say that they were "afraid it was a cancer."

We boast of the accomplishments of science, and all of the wonderful things that medicine has been able to do, and at the same time we allow a lot of barbers and post-hole diggers and hash slingers, to announce themselves as chiropractors or masseurs and treat diseases that are eating the very hearts out of the people. Until we take steps to correct that condition we will always have the same trouble we have had, and the benefits of cancer propaganda week will fade away after a week or ten days, and everyone will lose interest in it. This must be a campaign of education that should be kept up by every doctor in the land every day in the year.

SARCOMA OF THE LONG BONES.*

BY

CHAS. H. HARRIS, M. D.,

FORT WORTH, TEXAS.

A study of the recent literature and of the late reports from the committee of the American Medical Association for the investigation and study of sarcoma, fails to satisfy the investigating mind in the matter of the treatment of sarcoma of the bones.

Many points of diagnosis have been clarified through the more recent and modern methods of examination, such as careful history-taking, the study of *x*-ray findings and careful physical examination.

The location of sarcoma of the long bones is very interesting. In 109 cases reported by Myerding of the Mayo Clinic, 85 were in the long bones of the lower extremities, and 73 of these adjacent to the knee joint. They were tabulated as follows: Femur, 49; tibia, 27; fibula, 9; humerus, 18; radius, 3; ulnar, 3, and none in the carpals, metacarpals, tarsals or metatarsals. Bloodgood reports 1 central sarcoma of the phalanx of the toe out of 1,000 cases reported to the committee, and no periosteal sarcomas.

Lesions in other bones give only approximate diagnostic help. For example, in the central lesions of the lower end of the radius, the chances are largely that they are of the giant cell variety. Periosteal and central lesions of the metacarpals and metatarsals are very rarely malignant, and lesions of the carpal bones, with exception, are inflammatory—usually tuberculous.

It is doubtful if there is any definite solution of the problem of the etiology in sarcoma. The early writers placed trauma as a probable factor. Murphy, many years ago, called attention to the fact that a severe injury, not producing fracture, had many times been found in the history of cases of sarcoma of the bone, and that continued, frequent irritation most likely caused subacute periostitis. The fact that 73 of the cases of sarcoma out of 109 reported by Myerding, were near the knee joint, the part of the body most exposed, is rather convincing evidence and, to say the least, suggests that trauma plays the most important part of any known element in the etiology of sarcoma.

The symptoms in most cases are according to the duration and location of the tumor. The most constant symptom is a mild, boring pain, and especially is this true with the central or myogenous type of tumor. When severe pain is a symptom, it is usually late in

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 8, 1923.

the disease and comes as a result of pressure on nerve trunks. It is more common in the periosteal type, or the perforating central type of sarcoma. About 50 per cent have dull pain, 15 per cent have severe pain and a small percentage of the patients do not state the degree of pain.

Local swelling, with tenderness and a disturbance of the venous return by the presence of visible superficial veins, are very common signs. If the growth is in the region of the joint, a secondary sinovitis may result and tuberculous arthritis be suspected.

Pain from sarcoma near the joints is not relieved by fixation, as in the case of inflammatory or tuberculous arthritis, the joint motion not being impaired in most instances.

An elevation of temperature of from one to two degrees is often present, and in some instances the leucocyte count may be found above normal, especially if there should be a discharging sinus; it is more common to find a disproportion between the lymphocyte and polynuclears. In 470 of Myerding's cases, the average leucocyte count was 9,929, the highest being 28,000. Loss of weight, pallor and secondary anemia, occur, as a rule, depending on the degree of the malignancy and the time of metastases, as to whether it occurs early or late.

One of the most important factors in diagnosis is a careful history, which may reveal the possibility of an injury. The onset, rapidity of growth, location, symptoms, results of x-ray examinations and microscopic findings, are all of extreme importance.

The public, as well as the medical profession, has been educated in the routine x-ray examination of fractures. Follow-up x-ray examinations should be made in all cases of severe injury. Many times an early diagnosis of cancer would thus be made, and certainly a check on the progress of the pathological process could be made for future comparison.

Routine x-ray examination should include the corresponding bones on the other side of the body. Malignancy has been suspected where an x-ray examination of the corresponding bone of the other side revealed the same condition, thereby showing the suspected lesion to be congenital instead of pathological. In cases of obscurity the x-ray might show multiple, distinctly central lesions, which would exclude primary sarcoma, the diagnosis then resting between metastatic carcinoma, multiple myeloma, multiple bone cysts and chondroma.

Should a distinct periosteal multiple lesion be found, we could exclude malignancy, either metastatic carcinoma or sarcoma. The demonstration of multiple exostosis, a congenital hereditary disease of the skeleton, would also exclude malignancy.

Roentgen examination of the chest should be routine, as within three months from the first symptom of periosteal sarcoma, evidence of metastases has been found in the lung before the patient exhibited any clinical symptoms.

Tuberculosis in the chest suggests that the bone lesion is also tuberculous.

It is not a good rule for the diagnosis to be based on x-ray plates alone. A roentgenologist should describe what he sees in the plate. By associating this with the other findings, the laboratory and clinical picture, will the diagnosis be made.

Not until after repeated Wassermanns, and should these prove negative in periosteal lesions, therapeutic doses of salvarsan, can syphilitic periostitis be excluded.

When palpation of a periosteal bone formation shows it to be as bony as one's own shin, one can be quite certain that it is not malignant.

Prognosis depends upon the classification more than any method of treatment. The earlier the diagnosis and the more prompt the operative treatment, the greater the possibility of a cure in the small, round cell type of central or periosteal tumors. Should the x-ray show a distinct central lesion, with definite bone shell, with or without fracture, and no extra osseous soft part lesion, and palpation reveals nothing, the probabilities are that it is a bone cyst or giant cell central tumor, rarely a chondroma. Operation is not always indicated.

Under the control of the x-ray, a case can be watched. This is especially true with a pathological fracture in bone cysts; the fracture cures the bone cyst, with rare exception, and subsequent roentgenograms will reveal the rapid ossification not only of the fracture but of the central area of destruction. When rapid ossification doesn't take place, an operation is indicated. The operation will help in the healing of the bone cyst, and it is also the best treatment for the giant cell tumor or chondroma.

If the patient is over fifteen years of age and the roentgenograms shows a central lesions with a definite bony shell, with or without fracture, delay may be hazardous.

It should not be forgotten that the onset of a single central lesion may be multiple myeloma, or it may be the first evidence of metastasis from a concealed primary malignant tumor, especially in the kidney or prostate. However, these possibilities are rare. Bence-Jones bodies are of interest when found in the urine.

The order of frequence of central bone lesions after the age of 15, is as follows: Benign; giant cell tumors; recent and old unhealed bone cysts; sarcoma; and chondroma, and myxoma. Bloodgood says that "Up to the present time I have but two permanent cures after amputation for periosteal sarcoma, less than 4 per cent, and two cases recently reacted favorably to radium." Escher, in 1920, reported from the University of Vienna 40 cases with 6 patients living more than two years. Coley, in 1919, reported 250 cases with 31 patients living three years.

As to treatment, Bloodgood says:

"At the present time, even with a very large experience, I am somewhat in doubt. I feel positive that each case should first receive salvarsan, then *x*-ray, and then radium in the periosteal sarcoma. If there is no evident improvement, I am of the opinion that amputation should not be done without microscopic diagnosis, except in those cases of periosteal sarcoma in which the diagnosis can be made positively with the roentgenogram. In surgical clinics, where the surgeon or his pathologist is capable of making a correct diagnosis with a small element of error, the decision as to amputation can and should be reached at the exploration. In other clinics where, as yet, the surgeon and his pathologist have had little experience, the element of error thus being large, a piece should be excised with the cautery and sent to a number of pathologists for diagnosis."

Recent experiment has demonstrated that the number of benign periosteal lesions of the single bones, resembling in the *x*-ray film and clinically the periosteal sarcoma, is increasing. These benign periosteal lesions are: Ossifying periostitis, traumatic infections, syphilitic and tuberculous exostoses and some rare examples of osteo-myelitis.

Therefore, in view of the facts that the cure of periosteal sarcoma is so infrequent, even after amputation, and that the possibility of error is yet so large, amputation should be considered only when other means have failed. It is important to remember that when the lesion is syphilitic a favorable reaction to salvarsan will be rapid. If we are to see the good effect of radium or the *x*-ray, it should be at once, within two weeks.

Central lesions of the benign type, should operation be necessary, should only be curetted and the shell of the bone crushed, which has proven to be all that is necessary for a cure. Autogenous bone grafts are probably not as necessary as was thought in the past.

When the *x*-ray shows a single central bone lesion, with or without fracture, and the patient is over 15 years of age, operation is indicated, with the object of prompt and complete removal and destruction of all the pathological tissue within the bone shell. The bone shell is exposed and opened with an electric cautery. The shell should be curetted or, if using an ordinary method of exposing the bone and opening the shell with ordinary bone curet, the entire surface should be cauterized with the electric cautery, and should the pathological report be sarcoma, the cavity should be implanted with radium.

CONCLUSIONS.

(1) Surgeons interested in the study of sarcoma should co-operate with the committee appointed by the American Medical Association for the study of sarcoma, and report each case, with complete history, *x*-ray photographs and pathological specimens, for their study and report.

(2) Careful history taking; early *x*-ray examination; follow-up studies of all severe injuries, with microscopic aid, for early diagnosis and prompt surgical intervention; *x*-ray and radium treatment, and treatment with Coley's serum, may change the almost hopeless prognosis of small cell, central, or periosteal sarcoma.

(3) Amputation should be the rare exception, especially if metastasis has occurred. It is then done for the removal of a painful, hopeless, useless member, and for the relief of pain of a bedridden patient, and not in the hope of cure.

ABSTRACT OF DISCUSSION.

Dr. Chas. S. Venable, San Antonio: The patient, as Dr. Harris has said, usually dies in the malignant type of sarcoma where metastasis has taken place. I am of the opinion that there is a transitional stage between the giant cell and the mixed cell, which is much less malignant and less apt to metastasize. It is this type of malignancy to which Dr. Harris refers and in which he states that good results may be obtained by operation and transplants. Osteofibrosis is of diapheseal origin and giant cell sarcoma of epiphyseal origin.

Dr. J. E. Nevill, Bonham: Neither of the essayists spoke of tumors of the head of the tibia. During the past few years I have seen three such cases, two in children and one in a young married woman. In one of the children there was an injury of the leg from a fall from a porch. The *x*-ray showed a tumor at the upper end of the tibia, not involving the cartilagenous tissue, and it was curetted away. The material cut away was so suspicious of malignancy that amputation was done at once. The patient lived about a year, and died from metastasis. The other child, a boy 12 years of age, bumped his knee against a harrow some six or eight months previously. No attempt was made to operate in this case, and the patient died in four or five weeks. In the adult case the patient could not recall having received any injury, or having had any pain until the growth began to impinge on the soft structure. Roentgenograms were submitted to some of our best roentgenologists and surgeons, and the concensus of opinion was that it was a case of a simple bone cyst. The mass was curetted and the pathologists reported the material to be benign. The patient grew rapidly worse and the leg was amputated in a short while but the patient died in six or eight weeks. I am impressed with the importance of even slight trauma in the production of cancer of the bone, particularly in the location referred to.

Dr. Ross Trigg, Fort Worth: There is a history of previous injury in nearly all of Dr. Harris' cases. Trauma has been mentioned as an etiological factor by most all writers, but so far as I know there has never been any scientific evidence offered to show that sarcoma of long bones is caused by trauma.

In my opinion, a previous injury has a time relation only. In the same manner, nearly any medical or constitutional disease may be linked with trauma, since they so frequently follow injuries. In fact, they were so considered until specific causes were discovered. Formerly, the prevailing opinion that trauma was an etiological factor was of no consequence, but under the present industrial laws such is no longer the case. The surgeon faces a perplexing problem when consulted by the victim of bone sarcoma, who blames a previous injury for his condition. The problem remains to be solved by science.

PAPILLARY CARCINOMA OF THE KIDNEY, WITH REPORT OF A CASE.*

BY

M. S. SEELY, M. D.,
DALLAS, TEXAS.

Tumors of the kidney are rather rare; there being only 453 cases reported in the literature. About 75 per cent of kidney tumors reported are hypernephromata. Hyman[1], of Mount Sinai Hospital, New York, reports 44 cases of renal tumors at that hospital in seven years, classified as follows: Hypernephromata, 29; mixed tumors, 8; adenocarcinomas, 3; sarcoma, 1; papilloma of pelvis, 1; angioma of pelvis, 1, and papillary carcinoma of pelvis, 1. This is about the proportion reported by other authors.

Tumors of the renal pelvis are very rare. Israel[2], in 1910, reported in a series of 126 kidney tumors, 6 of the renal pelvis. Of the 94 cases at Boston City and Massachusetts General Hospitals[3], there was but one pelvic tumor, a papilloma. Binney[4], in 105 cases of kidney tumors found 5 papillomata. Albarran and Imbert[5], in Paris, collected 42 cases from all the literature up to 1900, and Judd[6] of the Mayo Clinic, up to 1921, reports 3 cases of renal pelvic and ureteral tumors in the 267 kidney tumors.

The type of tumor usually found in the renal pelvis is the papilloma, either benign or malignant. These tumors are accompanied by stone in about 15 per cent of the reported cases, and stone has been suggested as an etiologic factor. The genesis of these tumors is not clear. The papillary structure is regarded as a proliferating epithelium of the renal pelvis, and the exact nature of the tumor seems to be based on the appearance of the epithelial cells within the connective tissue beneath the tumor's base. The presence of these cells as a distinguishing feature has been questioned by those who contend that epithelial cells are normally present in this tissue in the form of glands. Morogna[7], in 1914, reports 2 cases of kidney pelvis tumors with a detailed study of the histology and a complete review of the possible etiologic factors as suggested by other authors and himself. He believes it possible, though not demonstrable, that since the tumors have not been proved to be developed by metaplastic evolution they are formed by aberrant ectodermal inclusions during the period of development, excited to proliferation by the stimulus of the inflammatory process.

The papilloma of the kidney pelvis does not invade the kidney substance but extends along the mucous membrane of the pelvis of the kidney, ureter and bladder. In this respect it differs from the growth of the papillary adenocarcinoma. The papilliary adenomas originate from the epithelial cells of the parenchyma and invade all parts of the kidney, while the squamous cell papillomas originate from the squamous cells of the kidney pelvis or ureter.

The most frequent initial symptom of all tumors of the kidney or kidney pelvis, is hematuria, followed by pain. In the hypernephromata and other kidney tumors, the tumor was palpable in about 70 per cent of cases reported. Of the renal pelvis tumors, none were reported as palpable. The diagnosis is not considered possible, except in those cases which have reached an inoperable stage, unless by chance small fragments of papillae are found in the urine. This incident is most likely following ureteral catheterization. When the growth occurs in the ureter it is sometimes seen protruding from the ureteral orifice. A renal hematuria associated with a papilloma of the ureter or bladder, is diagnostic of a growth in the renal pelvis.

Pyelography is spoken of as a logical diagnostic agent by several authors, but it has not proven very useful. In the Mount Sinai report it showed only distortion or irregularity in some of the inoperable cases.

I want to call attention to the extreme malignancy of these cases. Of the 38 malignant cases reported from Mount Sinai, 11, or 34.2 per cent, were inoperable. Even that is better than some of the reports. Twenty-seven nephrectomies were done, with 2 operative deaths, a mortality of 7.4 per cent. Of those operated upon, 58 per cent died in two years from recurrences or metastases,

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 9, 1923.

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and 23.3 per cent are reported to have lived 3½ years or more.

In our recent campaign of education on the cancer problem, an excellent pamphlet was distributed by the United States Public Health Service. It laid emphasis on the dangers of delay when symptoms of cancer of the breast, uterus, tongue, etc., had appeared, and urged early recognition, but no mention was made of hematuria as a danger signal.

The only way to offset this high mortality percentage, is by a closer co-operation between the patient, the general practitioner and the surgeon. Realizing that, a patient with a unilateral hematuria which persists in spite of treatment, is entitled to an exploration of the bleeding kidney, for diagnosis.

CASE REPORT:

Mrs. N. A., widow, age 46, weight (estimated) 95 pounds, entered Baylor Hospital July 14, 1922, because of pain in the left side of the abdomen, and haematuria. The bleeding had occurred at intervals since February, 1922. She was in bed with influenza in February, and after getting up she noticed blood in the urine. There was no pain. Her physician gave her medicine and the urine cleared up. She did her usual housework and saw no sign of blood until May, when, following an automobile ride, she saw blood in the urine and had pain in the left side. She described the urine as varying from a pink to a reddish-brown color. She saw blood on many occasions from May to July, when the bleeding became so marked that she felt weakened and was obliged to go to bed. The bleeding had persisted until her entrance into the hospital. She felt weak at the time, and thought she had some fever. She voided urine every two or three hours through the day, and four or five times through the night. She said she passed a small stone from the bladder about two years ago, and that it had several facets. Its passage was accompanied by much pain and a continuous desire to urinate.

An *x*-ray examination was made at the time of admittance into the hospital, which was negative. A cystoscopic examination was made by Dr. Folsom. The bleeding was seen to be coming from the left ureter. A pyelogram of the left kidney was made, but no variation from the normal was seen. The pelvis was described by Dr. Chas. Martin, the roentgenologist, as normal in size and shape, and the entire kidney outline was normal.

A working diagnosis of essential haematuria was made and the kidney pelvis was injected with 6 c.c. of a 1 per cent solution of silver nitrate, which was retained for two minutes. This procedure was repeated on July 25, and the patient was permitted to leave the hospital on the 26th, with blood still present in the urine. She returned to the hospital September 7, with blood in the urine, and was again treated with the silver nitrate injections. She returned on September 22 and October 4, for treatments.

On December 10 she returned for operation. She was very weak and was said to have lost from 5 to 7 pounds in the five months since she first entered the hospital for treatment. She said that she had bled continuously, and the pain in the left side, running down to the pubes, was better or worse in proportion to the amount of bleeding.

The temperature was 100, and the leucocyte count was 6,700, with 64 per cent polys. There were 3,008,000 red cells, and the haemoglobin estimation, by the Tallquist method, was 55 per cent. The kidney function test showed 35.7 per cent elimination of phenolphthalein in the first hour, and 18 per cent in the second hour, total for the two hours of 53.7 per cent. Indigo-carmin made its appearance in the urine of the right kidney in three and a half minutes, and in the left kidney in four minutes.

The patient was feeling stronger on the 16th, and she was operated upon at that time. The left kidney was exposed by lumbar incision, and the kidney opened. There was a small papillary tumor in the upper part of the pelvis. A nephrectomy was done. The ureter was normal, as far as could be seen from the operative field. The patient did well and was discharged from the hospital January 7, 1923. She has gained weight, strength and color, reporting a feeling of general well being after five months.

The pathologist's report (Dr. George T. Caldwell, of Baylor University Medical College) is as follows:

"The kidney is slightly smaller than normal. Its capsule strips easily, leaving a smooth surface. The cortex and medulla have about the normal relationship. Their markings are well preserved. At one pole in the pelvis there is a grayish, pedunculated, fragile, papillary mass, 1.4x1.5x1 c.m. Its base is circumscribed, and there is little tendency of the mass to infiltrate the kidney substance grossly.

"Microscopical Findings: The tumor mass consists of delicate stroma bands surrounded by closely packed epithelial cells, more or less oval or elongated in shape. Mitotic figures are abundant, and atypical cell forms are relatively frequent. There is no marked invasion of the underlying tissues. There are no marked changes in the kidney tissue.

"Pathological Diagnosis: Papillary carcinoma of the kidney pelvis."

ABSTRACT OF DISCUSSION.

Dr. Sam D. Weaver, Dallas: I saw this patient with Dr. Seely before operation, and asked him why a nephrectomy was proposed. He replied, "I have here a woman who has a bleeding kidney which shows no sign of tumor or stone, by means of the pylogram or any other means that we can use. She is losing too much weight and strength and appetite to have a simple hematuria." I think that is a point worth noting. I have had opportunity of seeing one other case of this kind, and the signs and symptoms were the signs stated here. I think all cases of essential hematuria, so-called, deserve complete study with this type of tumor in mind.

The rarity of these cases may be judged by the fact that Judd reported his first case in 1918. However, the fact that the condition is rare does not mean that all such cases are benign. Any of them may be malignant and each case should be carefully studied, to the extent of exploratory operation, if necessary. Judd advises the removal of the ureter down to the bladder, because of the likelihood of recurrence there. The lymphatics do not carry into the kidney, hence there is no involvement of the kidney substance. The condition is likely to recur in the ureter or bladder, but not in the kidney. The ureter, of course, can be removed, but the bladder cannot.

SARCOMA OF THE ETHMOID.

The outstanding feature of interest in the case reported by A. R. Mackenzie and E. D. Wells, Huntington, W. Va. (*Journal A M. A.*, July 14, 1923), was the fact of apparent recovery after roentgen-ray therapy, the first on record. A short wave length was given. The finer structures of the eye and the delicate diseased mucous membranes were not injured.

NEUROGENETIC TUMORS OF THE RETINA AND OPTIC NERVE; GLIOMATA.*

BY

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All true neurogenetic tumors are called gliomata. These fall into two general types, (1) The mature type which is usually benign, being malignant only because of its location, which is found in the brain, the spinal cord and the optic nerve; (2) the very immature type of a definitely malignant character found only in the eye and having origin in the retina.

Embryology of the central nervous system and eye has an important bearing on this study, and has aided in reaching certain conclusions. These parts are derived from epiblastic tissue which infolds to form the neural tube. (Fig. 1 a). These cells of an original epithelial nature soon change from the columnar type into stellate or spherical type, forming a loose, sponge-like network. By further differentiation these cells normally produce all true neurogenetic cells of the central nervous system, optic nerve and eye, which are the ganglion cells and their processes, the glia cells, and the ependymal cells lining the brain ventricles and central cavity of the spinal cord. After the first differentiation from the columnar epithelium, the resulting cells are called germinal cells (Fig. 1 b). A tumor arising from such cells might have represented the three types above mentioned, the glia-like cells forming a loose network, the ganglion-like cells with processes, and the ependymal-like cells around an abnormal cavity appearing as a rosette Fig. 1 c). The germinal cell is differentiated into neuroblast and spongioblast. The neuroblast forms the ganglion cells, and a tumor arising from such cells would consist chiefly of ganglion cells, the so-called neuro-ganglionare. The spongioblast forms both glia and ependymal structures, and a tumor of such origin would be composed of the spongy glial structure and of rosettes. Other tumors might arise from the differential glia-forming cells and produce a glioma without rosettes.

An outgrowth appearing very early, extending from the primitive fore-brain and containing a cavity continuous with the cavity of the brain vesicle, develops into the optic nerve and retina (Fig. 1 d and e). The most distal portion of the outgrowth becomes cupped and the cavity is lined with primordial Muller cells, which are analogous to the ependymal cells of the brain (Fig. 1 f). The two layers of this cavity come into contact as the cavity becomes only a potential space, and the posterior layer becomes the pigmented layer of the retina and the anterior layer develops into the remaining layers of the retina. As the retina differentiates into layers, the rods and cones project through the fused bases of Muller's fibers and across the potential space. Retinal neoplasms showing rosettes indicate the presence of ependy-

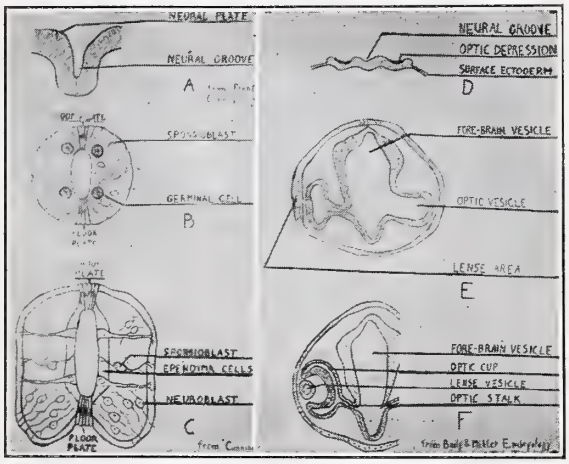

FIG. 1.—Diagrams indicating embryological origin of the three elements of true central nervous tissue and of the eye and optic nerve.

mal-forming cells, which statement is further borne out by the fact that in some cases rudamentary rods and cones project into the cavity of the rosette in attempting to project across the space which normally is obliterated by fusion of the two formative layers of the retina, as above pointed out (Fig. 2). Some retinal gliomata show cells of a ganglion type. All retinal gliomata show a few processes extending from the cells that may anastimose, which indicate glia formative cells (Fig. 3). Thus, in some retinal gliomata we have cells of ganglion type, cells of glia type, and cells of ependymal type. This embryological relation is a very strong indication that retinal gliomata have origin from the undifferentiated germinal cell, and that the origin occurred from cells displaced long before retinal layers were formed, if we use Cohnheim's theory of tumor formation.

Opinion differs as to the layer of retina from which the glioma originates. Knapp and Hirschburg believe the tumor arises from the internal granular layer. Delafield and Flexnir consider the origin to be the external granular layer. Iwanoff described it as arising from the fibrillar layer (Figs. 4 and 7).

Most students of this subject consider the tumor as a part of a faulty development and as a congenital malformation because it ap-

*Read before the Section on Ophthalmology, Otology, Rhinology and Laryngology, State Medical Association of Texas, Fort Worth, May 10, 1923. From the Department of Pathology, University of Texas.

pears early in life, may have several sites of origin in one eye, and is so frequently associated with some congenital defect of the central nervous system such as meningocele, spina bifida, and double central canal of the spinal cord.

Treacher Collins states that the undifferentiated retina of a three-month foetus, if presented to a pathologist for a diagnosis, would be called a glioma of the retina. The

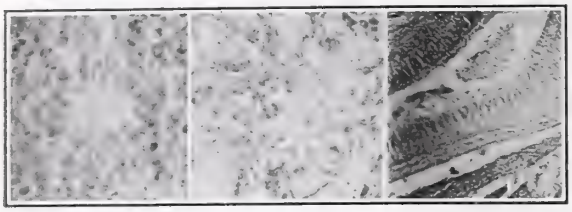

FIG. 2.—(Case No. 2) Showing a rosette under the high power.
FIG. 3.—(Case No. 2) Showing typical arrangement of neoplastic cells under the high power.
FIG. 4.—(Case No. 1) Showing retinal origin, under low power.

undifferentiated retina of a chick embryo resembles a retinal tumor very closely.

These points indicate that the retinal tumor has an early origin, probably form the undifferentiated retina, and is not derived from any one differentiated retinal layer. Though the tumor may appear to have originated from certain retinal layer or layers, such is simply the location of the undifferentiated

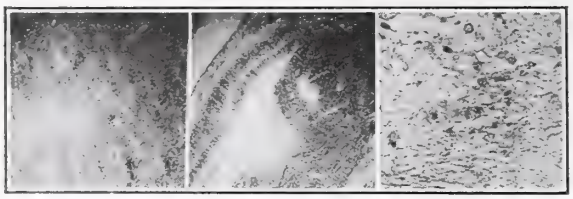

FIG. 5.—(Case No. 2) Showing optic nerve involvement by extension of retinous tissue under high power.
FIG. 6.—(Case No. 2) Showing extension of the neoplasm backwards.
FIG. 7.—(Case No. 3) Showing typical portion of neoplasm under the high power.

cells that are producing the tumor and we are not justified in assuming that the tumor arises from any certain layer.

REPORT OF CASES:

Case No. 1. (Specimen from Dr. Kreuger of Lubbock.) Gross appearance: Vitreous was completely filled with a soft material, light brown in color.

Microscopic study showed a glioma of the retina exophytum with involvement of most of the retina. There was a large amount of degeneration and disintegration surrounding small clumps of undegenerated cells. This peripheral degeneration can be attributed to the fact that it is a greater distance from the blood supply than the undegenerated portions.

The seemingly uninvolved portions of the retina were somewhat thicker than normal, with an abundance of (Fig. 4) stellate cells taking a faint stain and forming a loose network. As this portion merges into the tumor there is a rather sudden increase in the thickness of the retina to many times the normal thickness, with a progressive loss of distinct retinal layers. This increase in thickness is apparently due to a great increase in thickness and cellular content of the two nuclear layers, which seems literally to crowd out all other layers of the retina.

Several types of cells were observed (Fig. 3). They seemed to change gradually from one type into another, observing no definite order of arrangement. There was a marked irregularity in the staining affinity of different portions. In one portion, stellate cells predominated but were joined in a syncytial arrangement by rather broad anastimosing bridges of cytoplasm. In other portions there were clumps of cytoplasm very slightly broken up, containing nuclei with no distinct separation into cells. There was a transition between these types. It appeared that in the attempted cell division the nuclear division was very successful, but the cytoplasm showed only partial division in various degrees. All of the cells of the tumor appeared very hyperchromatic in type and their immature character suggested a high grade of malignancy.

No definite blood vessels were observed, though there appeared to be blood spaces lined with flattened cells of the tumor growth. No rosettes were observed.

The tumor seemed to be confined entirely to the retina and vitreous, with no involvement of the optic nerve or other parts of the eye.

Case No. 2.—(Reported through the courtesy of Dr. J. O. McReynolds of Dallas.) Patient was two years of age. When only six months old, its parents observed that the pupil of the right eye had a peculiar, whitish color. Nothing further was noted in the child's condition until a period some two months before this history was obtained, at which time it was noticed that this pupil became dilated. The child rubbed the eye at frequent intervals, though there was no evidence of real pain from this source. Examination demonstrated a retinal tumor, and the eye was enucleated September 19, 1922. To this date there has been no recurrence.

Gross appearance: The entire vitreous was filled with a mass of well stained material of variable consistency.

Microscopic study showed the vitreous filled with a tumor mass and a coagulum. The degeneration was not as marked as in Case No. 1. The sponge-like arrangement was not so prominent, either. The cells were more uniform in type. There were many rosette-like arrangements throughout the mass of tumor cells. No rudimentary rods and cones were observed. (Fig. 2.)

Sections of the optic nerve showed an extension of the neoplasm backwards (Fig. 6). This was like the parent growth but no rosettes were here observed. The individual cells were rounded and had very dark, hyperchromatic nucleae.

Case No 3.—(Reported through the courtesy of Dr. J. O. McReynolds of Dallas.) Patient was two years of age. One year ago the parents noticed that the pupil of the right eye had a glassy appearance. One month ago there was a discoloration, described as brownish-gray by the parents. Vision was completely gone. The eye was enucleated February 9, 1922.

Gross study showed the vitreous filled with a tumor mass.

Microscopic study showed a tumor growth much like that in Case No. 2, without rosettes. The vitreous was filled with tumor and a pink staining coagulum. The degeneration was slight (Fig. 7).

These cases are of a single type. Their microscopic appearance is that of rapid growth, immature type of cells, and peripheral degeneration away from blood vessels, which indicate malignancy of a high degree.

An altogether different type of neoplasm is the glioma of the optic nerve. It resembles rather closely certain gliomata of the brain, in its loose, syncytial arrangement. This is Verhoeff's intraneural tumor of the optic nerve. Evidences of malignancy, such as metastasis and rapid extensive growths, have not been noted.

Case No 4.—(Reported through the courtesy of Dr. Hilgartner of Austin.) Patient was about 4 years of age. Some three months before, the child had almost completely lost the vision in the affected eye. With this complaint there was also a complaint of occasional headaches, unilateral and confined to this eye. There was rather marked exophthalmus. The eye and optic nerve were removed.

Gross study showed a fusiform swelling of the optic nerve, two centimeters in length and 1½ centimeter in diameter at its broadest part. The enlargement began a very short distance behind the eye. On section there was a shiny mucoid appearance.

Microscopic study showed the tumor to be made up of a loose network of mature cells, with thin, anastimosing processes. There were two types, one a stellate cell with a rather small dark nucleus, very much like a normal glia cell; the other was also stellate but with a large, faintly staining nucleus, containing small, irregular granules and resembling glia cells in a foetal brain. The material filling the spaces of the syncytial network took a faintly pink stain, demonstrating that the material was not mucoid, as Ewing believes. In some places there were swollen fibers, apparently having undergone hyalinization. These masses fit the description of Verhoeff's Cytoid Bodies. The nerve fibers seemed to have disappeared entirely, probably from pressure atrophy.

There was great increase in the size of the primary bundle of the nerve, with little or no increase in the amount of fibrous tissue stroma.

There was a slight involvement of the epinurial covering, but this was confined to the pia-arachnoid prolongations; the dural sheath was intact.

This tumor is a true glioma, resembling very closely certain gliomata of the brain in the microscopic picture. There was no evidence of mitosis, of hyperchromatic nucleae, or appearance of rapid growth to indicate malignancy.

This is an altogether different type of neoplasm from the so-called glioma of the retina, as is strikingly evident in a comparison of the photo-micrographic illustrations of the cases reported.

The retinal glioma is a neoplasm of a nature peculiar to itself, differing as much from the true gliomata as a fibroma differs from a sarcoma. It resembles no other type of tumor with which we are familiar. It arises from the retina, a structure that is neither identical nor similar in structure to any other part of the body. To class this growth as a glioma seems highly improper.

The term neuro-epithelioma has been applied to the retinal tumor, especially in those cases showing a rosette arrangement. Neuro-epithelium is used embryologically to refer to the early structures of the neural groove, and points out nothing specific as to the eye. Neuro-epithelium, in its histological sense, refers to taste buds, hair cells of the organ of corte and rods and cones of the retina. Tumors composed of these and only these call prototypes, could be justly called a neuro-epithelioma, from this viewpoint. The retinal neoplasm may contain rosettes with rudamentary rods and cones, but that is only a very small part of the growth, which is by no means constant. Neuro-epithelioma, at best, is a very poor name for retinal glioma.

Would not the term "Retinoma" fulfill all requirements? It is in keeping with the most accepted terminology for neoplasms in general. It locates the tumor definitely. It conveys the idea that this tumor is peculiar to the retina. It separates this tumor from the vastly different type of growth more properly called glioma. It could not be confused or mistaken, either embryologically or histologically.

CONCLUSIONS.

1. Retinal neoplasms originate from a maldevelopment of the retina before differentiation into its layers, and contains cell prototypes of all central nervous system elements. The conception that it arises from one certain layer or certain layers of the retina, is incorrect.

2. Retinal neoplasms are essentially malignant, from a purely pathological study which indicates advisability of thorough, early removal of the eye, with no regard for cosmetic results, and the use of *x*-ray or radium.

3. Glioma of the optic nerve, from a pathological study, is an essentially benign tumor. The simplest sort of complete removal is all that is indicated.

4. "Retinoma" is suggested as a name for the tumor so improperly called glioma of the retina, or a neuro-epithelioma.

Our studies would indicate that in the bilateral cases of retinal gliomata the process might become bilateral from an extension or metastasis of the primary eye involvement. For this, however, we as yet have no conclusive proof, and the discussion would only lengthen this paper without reaching definite conclusions.

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THE PRESENT STATUS OF HIGH VOLTAGE *X*-RAYS.*

BY

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The new high voltage or short wave length *x*-ray therapy, originated in Europe and has been in great favor as a treatment for cancer since as early as 1917.

The essential difference of this method from that in ordinary use in this country is the difference in penetration. In other words, the *x*-rays which we have been using most generally for treatment purposes during the past twenty years have been produced by about a hundred thousand volts. Very brilliant results have been obtained by this old method in superficial or skin cancers, but due to the fact that the wave length is not sufficiently short to produce great penetration, we have been unable to secure sufficient dosage in the deep tissues to destroy malignancies deeply situated in the body. The new high voltage *x*-ray, or that produced by two and three hundred thousand volts, is of much shorter wave length and by special technic we are able to deliver any dose desired in any portion of the body. Hence we may say that the new high voltage *x*-ray solves the physical problems of the destruction of cancer, even though the malignancy may be situated within the body.

I observed this work in European clinics two years ago, and a brief report of the favorable results shown by the European workers was given this Association at the time.

During the past two years I have treated several hundred cases of advanced, hopeless malignancies by the use of high voltage *x*-rays, and the impressions gained from this experience and from observing the work of others have led me to the following conclusions:

At the present time I cannot say that high voltage *x*-ray treatment is a cure for cancer, for sufficient time has not elapsed. I have been doing this work only about two years, hence am unable to say that I have cured any cases. However, many of my cases have responded to the treatment in a very satisfactory manner. I have observed many advanced malignant conditions which were wholly inoperable and in such condition that no other system of treatment offered any means of relief, in which, after the application of high voltage *x*-ray treatments, the cancerous condition disappeared. A large number of these patients are well at the end of two years.

When we analyze the scientific basis of high voltage *x*-ray therapy, we are at once impressed with the fact that while it may not be a permanent cure for cancer, it gives us such a favorable agent with which to combat it that we must now change our attitude towards the subject of cancer and its treatment.

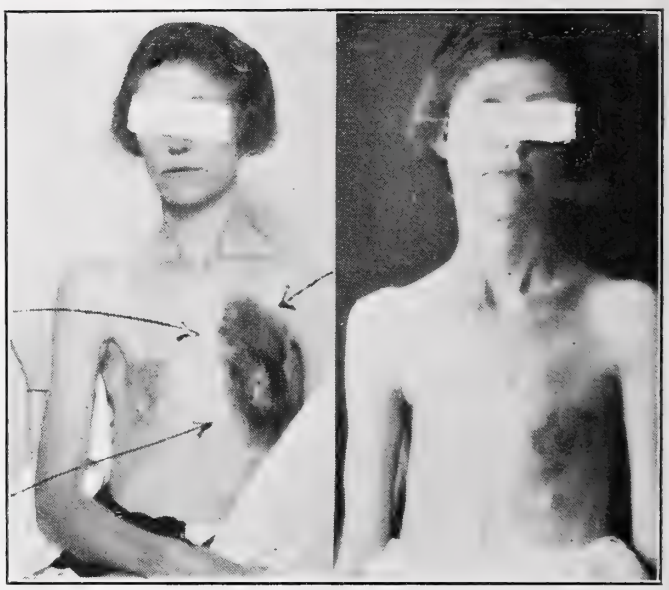

FIG. No. 1.—A woman, age 33, who had both breasts removed for carcinoma six months previously. At the time of examination there were indications of a very extensive recurrence at the site of both breasts, being particularly marked on the left side, where there was an ulceration the size of the hand. Radiographs indicated an involvement of the lung tissue. The axillary glands were markedly involved on this side. The patient received short wave length *x*-ray therapy. The photograph, indicating complete recovery, was made two years from the beginning of treatments, at which time the patient had gained markedly in weight, and all indications of malignancy had disappeared. The photographs are better evidence of improvement than a word picture can convey.

High voltage *x*-rays produced by 200,000 volts are of the same wave length and probably of the same value in the destruction of cancer cells, as the well known gamma ray

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 9, 1923.

of radium, and is generally of much greater value in extensive malignant conditions because of the accessibility of a larger quantity of rays. As a matter of fact, one high voltage x-ray machine will give us about as much ray as a million dollars worth of radium. It does

FIG. No. 2.—This woman suffered with carcinoma involvement of the tonsillar area, and was first seen about one year ago. The growth protruded into the naso-pharynx to such an extent that there was great difficulty in swallowing. The cervical and sublingual glands were markedly involved, as indicated in the photograph. The patient was in great pain, and had lost considerable weight. The involved, and considerable amount of adjacent tissues, were subjected to large doses of short wave length x-ray therapy. The patient rapidly returned to normal and all signs of malignancy disappeared, as indicated in the second photograph, made about one year from the beginning of treatment. It is interesting to note that the patient has experienced no ill effects from the heavy radiation of normal glands, which includes the thyroid and pituitary, as well as the salivary glands.

not, however, eliminate the use of radium in the treatment of cancer, because we are able to introduce radium into the various cavities of the body in many instances where it is not desirable to use the larger quantity of x-rays.

Unfortunately, doctors do not ordinarily see cancer patients until there is a large area of tissues involved, hence in these cases we need the larger quantity of radiation as produced by x-rays. All cases of cancer do not respond to x-ray and radium treatment, and as yet we do not know what condition exists which prevents them from responding to the treatment.

The application of gamma-rays and x-rays to malignant tissue has both a direct and indirect effect. There is a direct effect to the histological structure of malignant cells, which is probably fairly constant. There is also an indirect, or a reactive power, of the patient to the systemic action of rays, which reaction rather strongly suggests the liberation of an enzyme from the cancerous tissues which enzymes the patient to malignancy, and it is this latter effect which will probably prove to be our most valuable agent in our fight against cancer. Figures Nos. 1, 2 and 3, illustrate three different types of advanced deep seated malignancy, in which complete recovery was apparently obtained by modern radiation therapy.

Much research work is being carried out. The various governments of the world, and many universities and research laboratories, are carrying on extensive investigations to determine many of the biological problems of radiation therapy, and it is predicted that the next year will demonstrate a marked advancement in the subject.

ABSTRACT OF DISCUSSION.

Dr. Hugh Crouse, El Paso: The physician who deals with malignancy and uses the knife only is very frequently the physician who should be reprimanded. A large percentage of pathological conditions of the cervix is still being dealt with from a surgical angle, when the knife should not be used under any circumstances. For instance, in cervical carcinoma, the surgeon who forgets the lymphatic supply of the female uterus and cervix, is sure to forget the dissemination of malignancy, and if he

FIG. No. 3.—A case of basal cell carcinoma involving the upper half of the left face, with marked destruction of tissue, the eye having been removed. The patient was completely incapacitated for work and practically bedridden. There was great pain and the odor was extremely offensive. Large quantities of narcotics were necessary to prevent suffering. Very vigorous short wave length therapy was instituted, which produced a marked reaction, following which the patient rapidly recovered. At the present time, about one year from the beginning of treatment, the patient is clinically well. He has gained thirty pounds and is making a living for his family at manual labor.

This and the two preceding cases, are submitted, not for the purpose of claiming a cure for cancer, but rather to show the marked palliation that may be secured by modern x-ray therapy in the most advanced malignant cases.

uses a knife he takes the life of that patient, not at once, but in a brief time. Surgical intervention under such conditions absolutely destroys the chances, few though there may be, of recovery. Radium treatment is the method of dealing with such conditions.

The surgeon who deals with extensive carcinoma of the breast with a knife, without preoperative, extensive, obliterative, therapeutic use of the x-ray—a large dose being indicated to obliterate the lymphatics and vessels around the malignancy—is

the surgeon who is not doing the best he should for his patient. The physician who is curious, and who is constantly removing sections in suspicious cases, whether he is a pathologist, surgeon or internist, particularly when he is dealing with lesions in the mouth and about the jaw, is surely taking away chances of recovery from his patient.

The surgeon dealing with malignancy must have a fair idea of the uses of deep *x*-ray therapy; he must have a decided working knowledge of the use of radium; he should be able to use dessication, coagulation and the actual cautery. This means, of course, a thorough understanding of the last three, and a fair understanding of the deep *x*-ray and radium effects.

Surgery, unfortunately, is frequently builded on a commercial basis. In Arizona a few years ago, one of my colleagues was requested by a brother physician to assist in operating on a woman. My friend said, "What for?" and received the reply, "$35."

The surgeon who is armed with only one instrument, the knife, is a poorly equipped surgeon, indeed. There is a man in Kansas City who is removing hemorrhoids without the knife. He uses scissors. He has made a million out of it. It behooves the surgeon dealing with malignancy, to remember that there are many other weapons with which to attack this dread disease besides a knife. Deep *x*-ray therapy, radium, actual cautery, dessication and coagulation, each has a place, and very frequently one of them should either precede or be used instead of the knife.

RADIATION IN CANCER OF THE BREAST.*

BY
ARTHUR U. DESJARDINS, M. D.,
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Not many years ago cancer was perhaps the most fatal form of disease, and cancer of the breast was no exception to the rule. Its deadly character has gradually diminished as the result of improved surgical technic, and dissemination among the public of the knowledge that the only hope of curing cancer lies in the early treatment of suspicious lesions. Credit for saving many lives from the ravages of this disease belongs to the surgeon and to the pathologist, who have co-operated in the study and treatment of the condition.

One surgeon has shown that 64 per cent of patients operated on before the appearance of glandular involvement were alive from five to eight years after operation, while of those operated on after the glands became involved, only 19 per cent are alive for these periods. The glandular involvement on which these percentages are based means malignant extension to lymphatic glands found on pathologic review of excised tissue. Another surgeon writes: "Our own conviction is that, of 100 patients treated surgically, 15 to 25 per cent may be expected to be alive at the end of five years." Such percentages undoubtedly represent the utmost that the best type of surgery can offer at present, although it is to be expected that surgical end results may be further improved as more persons learn the importance of early treatment. Indeed, the opinion of many surgeons seems to be that "we cannot expect further improvement in the results from operation for cancer of the breast from a change in the technic of the radical operation as it is performed by most surgeons at the present time."

Much as modern surgery is to be commended for the improved outlook of patients with cancer of the breast, the fact that only from 20 to 25 per cent of patients can reasonably expect permanent cure justifies the feeling that there is still much room for improvement. Surgeons are the first to recognize this. Deaver has said: "We can never be sure that every malignant cell has been removed, however early and well localized the disease seems to be at the time of the operation, nor do the most complete operative procedures in such cases insure freedom from recurrence." Therefore, any method that offers reasonable hope of further improving such results is worthy of careful consideration and deserves a serious trial.

Shortly after the discovery of the *x*-rays by Roentgen, in 1895, the idea of utilizing this new agent in the treatment of disease was conceived. Even with the crude apparatus and the scanty knowledge of the mechanism of these radiations then available, encouraging results were reported, first in treating benign, and later malignant diseases of the skin. Since those early days, as the result of much clinical and experimental work, the use of roentgen and radium rays in the treatment of malignant processes has been greatly extended. The striking results often obtained encourage us to look forward to the time when we may see realized Ewing's characterization of this form of therapy as "the first rational treatment of cancer ever devised."

The treatment of cancer of the breast by roentgen rays is not new. In many clinics and hospitals, it is now being given a more or less fair trial, and what constitutes a fair trial is what I wish to discuss.

Since both the surgeon and the radiologist are working for the greatest good of the patient, both must study the problem with an open mind, and the patient should be given the benefit of any advantage there may be in the selection or combination of either, or both methods. Unquestionably such value as radiation may possess must depend in large measure on such frank and broad-minded co-operation, without which a fair trial becomes well nigh impossible.

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 9, 1923. From the Section on Radium and Roentgen-Ray Therapy, Mayo Clinic, Rochester, Minn.

To the patient it matters little what form of treatment is used; the only concern of the bearer of a breast cancer is what method offers the greatest chances of permanent cure. To the surgeon and to the radiologist the problem is somewhat more complicated. It resolves itself into factors of diagnosis, operability, technic, immediate mortality and end results.

DIAGNOSIS.

In the early stages the recognition of the malignant or benign nature of a lump in the breast is often extremely difficult. Since cancer begins as a local cellular disturbance, either independent of, or more often associated with, a chronic condition such as cystic mastitis, such local disturbance must ever be kept in mind. While surgeons recognize the fact that mere excision of a lump may not reveal the presence of cancer, although it may be present in some other portion of the breast, they are beginning to advocate excision of all the gland-bearing tissue whenever cancer is suspected. This will undoubtedly mean a certain number of unnecessary breast amputations, but, if not carried to extremes, it will unquestionably prevent a considerable number of deaths from cancer.

OPERABILITY.

The operability of a case depends on the nature and extent of the primary lesion, the presence of gross adenopathy and the apparent possibility or impossibility of total extirpation. An increasing number of persons seeking advice for tumors of the breast present early lesions; in fact, many such lesions prove to be benign. Nevertheless, it is still true that the majority of patients examined are in more or less advanced stages of the disease, usually with evidence of extension to the axillary, and too often to the infraclavicular, and even to the supraclavicular groups of glands.

If the operation is to be successful the surgeon must be able to remove all the diseased tissue. This involves an important element of uncertainty because the surgeon can only remove what his senses enable him to recognize as pathologic lesions, and yet microscopic elements of such lesions may already have extended beyond the point of visible or palpable involvement. An effort to eliminate such uncertainty has led surgeons to aim to remove, not only the visibly and palpably diseased tissue, but to extend the field of excision, whenever possible, well beyond it. Unfortunately, when the axillary and infraclavicular glands, and especially the supraclavicular glands are involved, wide excision becomes impossible. In view of the commonly pernicious effect of incomplete operation, and of the not infrequently striking effect of roentgen-ray treatment in frankly inoperable cases, the wisdom of operating in the presence of such gross clinical involvement may be seriously questioned.

All radiologists, when called on to treat neoplasms that have previously been subjected to incomplete operation, know from experience that such tumors may behave as if they had been stimulated to increased activity, and that they will not yield to radiation with the same readiness as tumors not so stimulated. However, certain surgeons have a tendency to refer to the radiologist only the worst cases, expecting him to pull their chestnuts out of the fire. The radiologist has as much right to deplore such an attitude as the surgeon has to decry the tendency of many patients to seek surgical relief too late. Any value there may be in radiation as applied to cancer of the breast should be made use of in all cases; in no other way can we ever expect to gather statistics that will prove anything. That such statistics are not now available is due to the fact that surgeons and radiologists have not sufficiently co-operated.

The anatomical and surgical factors, as well as the operative procedures involved in radical amputation of the breast for cancer, have been thoroughly worked out and practically standardized. Surgeons themselves feel that further developments in the operation must be in details, and will not materially affect the results.

In the hands of good surgeons, the immediate mortality is a fairly constant factor and is not likely to change greatly.

The late results are much more subject to variation, depending on the range of operability recognized by the individual surgeon, and on his technical ability. Under range of operability are included the duration, condition and extent of the primary lesion, and the presence and location of secondary foci.

We have known for some time that postoperative roentgenization often delays the incidence of recurrence, and that recurrent foci may be kept under control for varying periods, or made to disappear completely. Reports are now beginning to appear, indicating that the combination of roentgen therapy with surgical amputation in operable cases actually decreases the incidence of recurrence. In a recent contribution, Lee (a surgeon) expresses his conviction on this point in the following terms: "All in all, the outlook in the treatment of carcinoma of the breast by radiation is a most encouraging one. We feel that in no case of mammary cancer treated by surgery can the proper use of x-radiation be discarded. Radiation, properly adminis-

tered, is the most effective aid in the care of carcinoma of the breast surgically treated; and in every surgical clinic a preoperative and postoperative cycle should be employed if best results are to be obtained."

Although the principles governing treatment by radiation are fundamentally the same in all cases, the practical application varies with the conditions obtaining in each particular case and according to the object sought. For the purpose of discussing such application we may divide cancer of the breast into operable and inoperable cases.

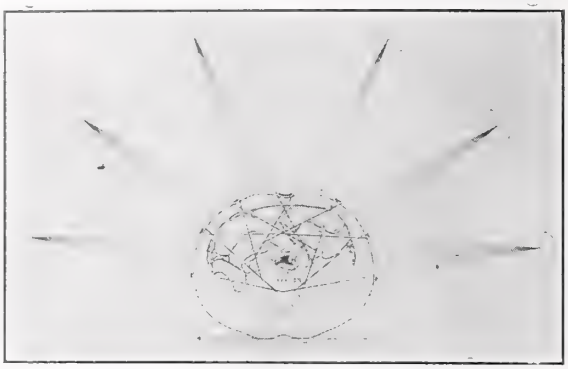

FIG. 1.—Illustrating the principle of increasing the depth dose by concentrating several beams on one region. If the surface dose is taken as one hundred per cent (limit of skin tolerance) and the dose at a depth of ten cm. as 20 per cent, this can be increased to any desired percentage by treating through a number of different fields, each receiving 100 per cent at the surface.

In the operable cases the aim of the radiologist is (1) to lower the activity of the cancer cells by systematic preoperative roentgenization, not only of the tumor itself, but also of its entire lymphatic drainage, thus minimizing the danger of dissemination at the time of the operation and during the early period of healing, and (2) by postoperative irradiation further to devitalize and destroy such malignant cell nests as may have escaped the "low-power" vision of the surgeon. There is ample ground to justify the hope that this double purpose can be achieved, at least in a certain percentage of cases. Even if the incidence of recurrence could thus be reduced only 5 per cent, it would be distinctly worth while.

RADIOLOGIC TECHNIC.

The technical aspects of the problem are admittedly difficulty. Malignant lesions of the skin are often very sensitive to roentgen rays. Indeed, in basal-cell cutaneous epithelioma, cure can be obtained in 90 per cent of cases. Aside from differences in the type of tumor, which is one of the chief determining factors in sensitiveness to radiation, the degree of response depends almost entirely on the actual dose delivered to the different parts of the growth. If it were not necessary to consider the normal tissues surrounding the malignant area, the cure of all superficial cutaneous neoplasms would be purely a question of exposing them to roentgen rays for a sufficient length of time.

In tumors at, or near the center of the body, some of which can be remarkably influenced, the problem assumes another aspect. A given area of skin will tolerate a given dose of roentgen rays, which, if exceeded, will produce radiodermatitis varying in degree according to the dose; therefore, the limit of skin tolerance constitutes the limit of dosage for any skin area. The penetration of a beam of roentgen rays is governed by (1) the inverse square law—that is to say, its intensity diminishes as the square of the distance from the source; (2) the absorption coefficient of the tissues; (3) the voltage; (4) the phenomenon called "scattering"; (5) the thickness and nature of the substance used as a filter, and (6) the size of the field through which the beam enters the body. In more simple terms, the intensity of a beam of rays diminishes rapidly as it passes from the surface to the depths of the body, so that a dose sufficient completely to destroy an epithelioma of the skin would exert little or no influence on

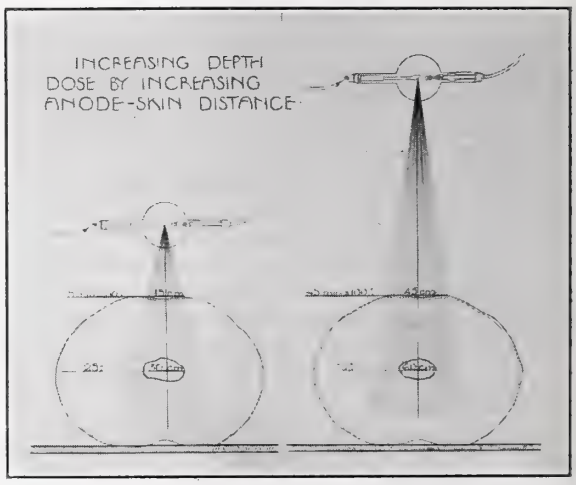

FIG. 2.—Illustrating principle of the inverse square law as applying to increase of the depth dose. Under certain conditions of apparatus and tube, a five-minute exposure is required to deliver a full skin dose taken as one hundred per cent. If the skin is half-way between the tube focal point and the tumor, the latter will receive only 25 per cent of the surface dose. If the distance between the tube focal point and the skin is increased to three times the distance between the skin and the tumor, forty-five minutes will be required for a 100 per cent dose at the surface, but the tumor will receive 75 per cent instead of 25 per cent.

cancer of the uterus. In the case of deep tumors, the radiologist is often able to overcome this difficulty by exposing the tumor through a number of different skin areas. In this way no single area is overdosed, and yet, if the separate beams are properly focused, the tumor receives as many multiples of a single dose as the number of separate beams

focused on it. Figure 1 explains this principle. It is extensively made use of in treating many deeply situated neoplasms.

Cancer of the breast is, in general, neither a surface nor a central lesion. Its pathologic elements being, as a rule, beneath the skin and yet not at any great depth, it constitutes one of the most difficult radiologic problems. The difficulty lies in delivering through a given skin area a dose sufficient to destroy the malignant process without seriously damaging the skin, because the zone of the disease is so located as to preclude the possibility of increasing the depth dose by the so-called "cross-fire" method described. How, then, may we expect to accomplish the desired result? The only method applicable is to give as strong a dose as the skin will tolerate, utilizing at the same time the principle of increasing the focal distance so as to increase the intensity of the rays reaching the subcutaneous tissues (Fig. 2).

By carefully planning the treatment of each case, and by applying the idea of roentgen saturation, it is possible to deliver a tremendous dose in a relatively short time without interfering with the operation, or with the healing of the wound. The only complication that may interfere with the program is radiation sickness, which, though never serious, is more or less distressing to the patient, and may delay operation one or two days. During the last year a large number of patients have been treated with radiation before operation, and in very few instances was it necessary to delay operation a day on this account.

The technical factors employed have been as follows: One hundred and thirty-five thousand "peak" volts measured by the sphere-gap method; focal skin distance of 40.5 cm.; filtration through 0.6 mm. of aluminum and forty minutes' exposure, with 5 milliamperes of current passing through the tube. These factors, producing with our installation a minimal erythema, are used before operation, because it is desirable to avoid the possibility of complicating wound repair by a concurrent dermatitis. A preoperative course of treatment involves giving such a dose through each of eight fields: anterior thoracic, posterior thoracic, axillary and supraclavicular on both sides. Most patients can take this at the rate of two fields a day. For the average patient, the entire course covers four days, but for a few, a day or two longer may be required. Operation has followed within a week in every case, usually two days after the completion of treatment. Although the full cycle of the cellular changes produced by roentgen rays requires some time, I feel that whatever effect such dosage is to have on the cells will take place in due time, regardless of the operation.

Patients treated immediately before operation should receive a second course after operation; that is, three weeks after the first course. Patients not treated before operation should receive thorough roentgenization as soon as possible after operation. Often patients are sent to the radiologist as an afterthought, just before being discharged. In some instances, the delay is due to the surgeon's fear that the treatment may have a retarding influence on wound repair. I have not seen a single instance in which delay in healing could in any way be attributed to the treatment. One thing is certain: Such delay, especially in patients not treated before operation, is bound to rob radiation of much of its effectiveness. Postoperative treatment should be started as soon as the period of postoperative complications has passed.

The idea of treating cancer of the breast by means of roentgen rays immediately after surgical amputation, before closing the wound, has been thought of and even tried. Such an idea, while natural enough, could have arisen only in the mind of someone not familiar with the nature and behavior of radiations. A mere statement of the reasons against such practice will convince anyone that its field of usefulness is extremely limited. It would necessitate considerable prolongation of anesthesia. It would require the presence and exposure of an assistant to keep the wound margins evenly retracted, because, if any portion of the flaps comes within the field of radiation, the dosage would have to be limited to exactly the same degree as if the area were entirely covered with skin; or the skin would have to be entirely removed over the area treated, which would not help matters in the equally important surrounding territories. Furthermore, the danger of radiodermatitis from overlapping of contiguous radiation fields is another important objection. The few who, like Pfahler, tried to put the idea into practice, promptly gave it up as dangerous.

It has been the custom of many radiologists to repeat postoperative roentgenization every three or four weeks for many months. I seriously question the value of such indefinite repetition. If efficient preoperative and postoperative treatment has not destroyed all the cancer cells, they are not likely to be destroyed by repeating the same dose every month. Repeated sublethal doses increase the resistance of such cells to the rays, and this will diminish the effectiveness of the

rays on recurrent foci that may appear later. The most rational plan seems to be thorough preoperative roentgenization, and a second course three weeks later. In cases with marked glandular involvement a third course three weeks after the second should be given. If preoperative treatment has not been given,

FIG. 3 (Case No. 1.)—Massive left breast with retracted nipple before treatment. Axillary and supraclavicular adenopathy not very evident except on palpation.

FIG. 4 (Case No. 1.)—Patient immediately after treatment. Note comparative appearance of breast and nipples.

a course of treatment at full dosage during the second week after operation, should be repeated three weeks later, and again in six weeks if marked glandular involvement was found at operation.

For postoperative radiation the same treatment factors are employed, but the time is increased to forty-five minutes, except in cases in which the skin is unusually sensitive, as determined by reaction from preoperative treatment, blond complexion, age and general sensitiveness. In a few cases the time was increased to fifty minutes, and Dodd's lotion prescribed. This should be done only in cases in which the skin resistance is known. Another point must be mentioned: the iodin commonly used by the surgeon around the operative field, and the adhesive straps to maintain dressing materials in position, sometimes give rise to skin reaction. One or more series of thoracic roentgenograms, taken under certain conditions of technic, a short time before or after a course of radiation, may likewise cause an irritation of the skin.

HIGH-VOLTAGE TREATMENT.

Since the advent of so-called "high-voltage" roentgen therapy, certain radiologists have attempted to make use of it in the preoperative and postoperative treatment of cancer of the breast. Certain of the advocates of such high voltage treatment found that the results obtained with voltages below 150,000 (peak) were superior to those obtained with high voltages, which is not altogether surprising, since the chief advantage of apparatus generating higher voltages is that a greater proportion of more penetrating roentgen rays is obtained. This is highly important in treating deep lesions, but in the relatively superficial cancer of the breast, such advantage is much less obvious; and yet—one wonders if, from the point of view of malignant cell reaction to radiation, there is any difference between the effect of rays of different wavelength, provided the cells receive a corresponding dose. This point is far from settled.

TREATMENT OF INOPERABLE CASES.

That few inoperable cases of cancer of the breast can be permanently cured is undoubted, but that many can be beneficially influenced by intelligent radiation treatment is also certain. Even if death is seldom prevented, it can often be postponed for a considerable period, and the patient kept in a condition to carry on useful activities. Sur-

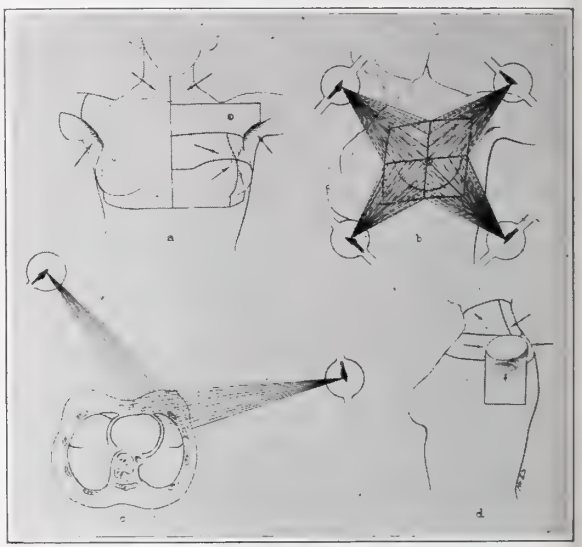

FIG. 5.—Showing plan of treatment. "a," distribution of the fields through which the treatment was given. The arrows indicate the direction in which the beams of x-rays were focused in each case. It will be seen that the involved left breast had four beams concentrated on it, each beam being focused at an angle of approximately 45°. Three beams were focused to the axillary and infraclavicular regions, one from the front, one from the axillary aspect and one from the back (see "b" and "d"). Two beams were focused to the supraclavicular region, one downward, inward and backward from the front, and the other downward, inward and forward from the back. "c" shows the crossing of the beams through the breast, and also shows that the point of crossing of the four beams directed to the left breast must have delivered a considerable dose to the underlying pleura and lung surface.

face ulceration can be prevented or greatly delayed, and painful manifestations arrested or reduced to a minimum.

If the best results are to be obtained, each case must be considered as a separate problem and the treatment adjusted to meet the conditions. Often buried radium, in the form of needles or emanation units, can be employed to great advantage in conjunction with

external roentgenization. This method, however, should be restricted to well-defined, small or medium sized tumors of the breast, where it is possible, under local or gas anesthesia, to distribute the radium units so as to deliver fairly uniform dosage throughout the mass. In some cases the use of buried radium in the axilla may also be beneficial, but one must remember that radium is no respector of tissues, and cannot be left in proximity to important vessels without danger. Surface application of radium may be indicated in a few cases, but in general this is unwise, because usually there is extensive involvement, and to treat the scattered elements of malignancy by topical application requires a quantity of radium which is not available, and also because scattering the radium over certain portions of the disease, while others are left untreated, is bad practice. If the intention is to treat the remainder of the territory by means of roentgen rays, effective roentgenization becomes impossible without risk of overdosage to some skin areas on the one hand, or of leaving patches insufficiently exposed on the other. When radium is used, it is best to bury it in the malignant foci, and to limit all treatment from the outside to uniform roentgenization.

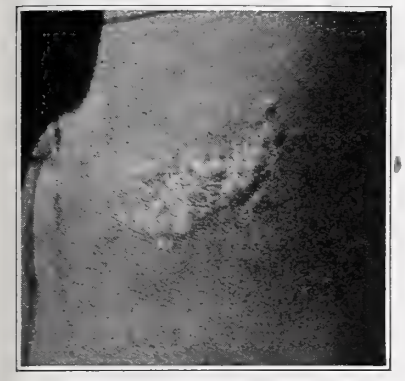

FIG. 6 (Case No. 1.)—Cluster of malignant skin nodules on left side.

The details of application of roentgen rays in operable cases, as I have stated, vary with the conditions present. In order to give some idea of the possibilities, as well as of the technic employed, I will report a case which has several interesting features.

Case No. 1.—Miss C. M., aged 44 years, came to the Clinic September 5, 1922, seeking relief from a large mass in the left breast. Six months before, she had first noticed in this breast a lump, which had grown steadily. She did not consult a physician until three weeks before coming to the Clinic, when she was told that the condition was malignant and that the axillary glands were enlarged. The left nipple had never been as prominent as the right, but the patient thought it was more retracted than formerly.

On examination, the left breast was found to be a solid mass, with moderate retraction of the nipple and a glazed appearance of the skin (Fig. 3). The portion beneath the upper, outer quadrant was particularly hard. In the left axilla, there were three glands, the largest measuring 4 by 2 cm. and the smallest being 1 cm. in diameter. In the left infraclavicular region another gland, 2 by 1 cm., could be palpated, and above the left clavicle two other glands, 1.5 and 1.0 cm. in diameter, respectively. The condition was considered inoperable and the patient was referred for radiation treatment. She weighed only 86 pounds (her normal weight), and her thoracic wall was rather thin; it is of importance to bear this in mind in connection with some of the subsequent features of the case.

Between September 11 and 18, an extensive course of roentgen-ray treatment was given, the distribution and plan of which are shown in Figure 5. The dose was:

Voltage, 135 kilovolts (peak), measured by the sphere-gap method.
Focal skin distance, 40.5 centimetres.
Filtration, 0.05 mm. copper and 0.1 mm. aluminum.
Milliamperes, 5.0.
Time, 1 hour and 30 minutes.

This dose was administered to each field, the beams directed to the left breast being focused as shown in the diagram. The skin toleration to this dose was very good, and it was repeated between October 16 and 25. November 17, the condition of the breast was very much improved. Its substance was much softer; the left supraclavicular and infraclavicular glands were no longer palpable, and the left axillary glands had diminished in size 40 to 50 per cent. In the left posterior axillary line was a cluster of cutaneous and subcutaneous metastatic nodules (Fig. 6).

Between November 21 and 23, a third course of roentgenization was given, but this was limited to the left half of the thorax and the dose was changed so as to have greater effect superficially, and less on the deeper structures. The treatment factors were:

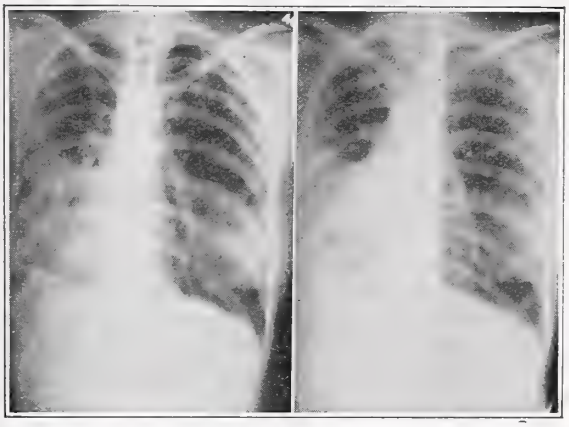

FIG. 7 (Case No. 1.)—Roentgenogram of the thorax January 25, 1923. Area of infiltration with central clear space, suggesting abscess. Possibility of metastatic process considered.
FIG. 8 (Case No. 1.)—Roentgenogram of the thorax February 26, 1923. Dense fibrosis of the pleura.

Voltage, 135 kilovolts (peak).
Focal skin distance, 40.5 cm.
Filtration, 0.6 mm. aluminum.
Milliamperes, 5.
Time, 40 minutes.

December 23 another and still more superficial dose was delivered to the area corresponding to the cluster of skin nodules mentioned. Between January 23 and 27, a course of treatment with full dosage was given, and by March 6 the condition, so far as the breast and metastatic glandular involvement

were concerned, as well as the area of skin nodules, was entirely satisfactory. The left breast was now as soft as the right and the masses could not be felt. The axillary, infraclavicular and supraclavicular glands, and the skin nodules, had entirely disappeared (Fig. 4).

Following the course of treatment in January, the patient developed noticeable pulmonary symptoms. She had had a cold with cough for some time, and suddenly developed a fairly sharp rise in temperature; the cough increased, and she began to expectorate blood-streaked mucus. For a few days this seemed rather serious, but gradually the symptoms subsided. The physical signs in the left lung were not those of pulmonary abscess and the clinical features did not resemble those of abscess of the lungs. January 25, a roentgenologic examination of the thorax brought the report "thickened pleura, left base; very extensive infiltration, lower left lobe; possible abscess" (Fig. 7). However, the patient's condition steadily improved, and February 26 another roentgenologic examination of the thorax revealed a quite different picture. There was still pleural thickening around the left base, but it was limited to the periphery, and the infiltration previously mentioned had disappeared. The heart was drawn somewhat to the left; the condition was clearly a chronic fibrous process in the pleura (Fig. 8). In view of the four beams of roentgen rays focused so as to crossfire the left breast, on three different occasions, and in view of the thinness of the thoracic wall in this patient, the subsequent events are entirely accounted for, but during the height of the reaction, the symptoms, the physical findings, and the first roentgenograms were not easy to interpret. It was necessary to consider the association of metastasis and acute pulmonary disease, and it was only later that a correct estimate of the situation could be made.

This case demonstrates that roentgen rays can exert a pronounced influence on cancer. I am not attempting to convey the impression that the patient in this case is cured, but she has been tremendously benefited. There is another extremely interesting phase of this condition. It has been known for some time that, in a small number of patients with cancer of the breast, treated by intensive roentgenization, a varying degree of pleural reaction is produced in the zone beneath the treated area. Considering the total number of cases treated, this occurs but rarely. I have seen it in four cases, and in each instance the patient was small, with thin thoracic walls.

In so far as the effect of radiation on this group of tumors is concerned, this case is not at all exceptional; many others have been treated with more or less similar results, depending on the nature and extent of the primary lesions. If roentgen rays can exert such astonishing action on inoperable neoplasms, there seems to be no reason why like effects cannot be obtained in the operable group.

It is still too early to form an accurate estimate of the exact effect radiation treatment may finally prove to have on the statistics of cancer of the breast. Intelligently applied it may prove of even greater service in operable cases than it is now in the inoperable.

ABSTRACT OF DISCUSSION.

Dr. S. C. Red, Houston: We are all more or less familiar with cancer and its treatment. Knowledge of cancer dates back as far as Hippocrates, and its removal has been going on that long and doubtless longer. The longer I have occasion to see cases of cancer, the larger the question in my mind as to what is the best thing to do in the individual cases, both on account of the different kinds of cancer and varieties of treatment. For several years we have been hammering on the subject, "Bring your cases early." The public has become familiar with this, and are bringing them earlier, hence the better the results.

With reference to the *x*-ray, I still have a large question mark in my mind. It was demonstrated years ago that the cancer cell, right at the beginning of the development of the cancer, is swept along in the lymph and is carried to and comes in contact with the lymphatic glands, and that the lymphatic glands, happily, has some deterrent effect; but in the course of time they, too, become involved, and become centers from which other distributions take place. That being the case, what becomes of the many microscopic infected glands, is one of the questions with me. When we remove a cancer, what happens? What happens in that patient when he gets well?

Again. I would like to know what statistics have been gathered to show that the *x*-ray has improved our general results, following operable cases. On what does the author of this paper base his diagnosis of an operable and inoperable case? That is, what does he consider an inoperable case? How does he know that a case he considers inoperable, when taken to another surgeon, is not considered by that surgeon as an operable case? A great deal of the tissue in the case reported might have been removed by the knife and the balance *x*-rayed. Of course, this is speculation and may be irrelevant, as far as the patient is concerned. Experience, however, justifies the speculation.

We would agree in one thing, namely, that the process of growth (macrosopically) in those cancer cells has been stopped, and we hope stopped entirely, the same as if it had been entirely removed. We must not forget that the patient is still a cancer subject, and for the same reason that it originated it may develop again. We do know, however, that a cancer cell is more amenable to treatment than some other malignant growths. When we remove a sarcoma we expect a recurrence. Once in a while we are astonished by a cure, but it isn't expected. Still, we go on removing them, in the expectation that sometime we will work out a technic that will help. The big question, of course, is what is the cause of cancer? I hope that if we keep on laboring, as we are laboring in the whole medical world today, that question will be settled, and cancer will become as rare as typhoid fever.

Dr. Walter Shropshire, Yoakum: I might say just a word to support the essayist in his contention and report a case or two that perhaps will say more than I can say.

About twenty years ago now, Dr. C., a former partner of mine, developed a mixed cell sarcoma of the seventh rib. I tried to remove it, but in a very few months it was back again, and I made another stab at it, taking out a portion of the sternum and clearing up a field as wide as I thought I dared to, and in a very short time there was a return. The third time I put him on *x*-ray treatment, and continued it for about twenty-four months. In those

days we had the old static machine, and we had to feel our way very cautiously in the administration of the rays. Dr. C. is living and practicing medicine today, nearly twenty years since.

More recently a fellow practitioner, Dr. F., now of Houston, developed a cancer of the rectum. He went to New Orleans and was operated on. It returned, and a second attempt was made, with a continuation of the symptoms. He then went to Mayo's and had a colostomy done and radium used on the malignant growth. He continued the use of radium for some time, and now, about four years later, he is practicing medicine in Houston.

While "a swallow doesn't make a spring," it surely gives us courage to hope for it, and I can see no reason why we should not try it. Of course, the moment that I see a growth I think is malignant, I, like every rational man, advise that it be removed promptly and quickly, and if it can't be removed, the patient should have the advantage of *x*-ray or radium treatment. If it can be removed, it should be done and the patient given the advantage of a thorough radiating of all the lymphatic glands and channels that are likely to be carrying the floating cells that spread the malignant growth. It does do good in some instances, and as rational practitioners of medicine it is our duty to give the patient the advantage of it. Frankly, I expect to see much better things come of *x*-ray and radium treatment than we have seen in the past. Some good has come, without doubt, and we ought to be standing with minds open enough to utilize whatever opportunity is before us, to extend the benefit of radiation to our patients, but not to the exclusion of the surgeon. The man who would see a nodule in a breast and refuse to operate on it and recommend *x*-ray treatment, I think would not be doing his duty.

Dr. Wilson, of Temple: Whether the beneficial results or effects we get from *x*-rays on cancer are due to the direct killing of the cell, or whether they are due to the formation of a carcinolytic acid in the blood that has an effect on the cell, or whether it is due to the stimulation of anti-bodies, I think are questions which are yet unsettled, but as to the deleterious effect of *x*-rays on the embryonic tissues, the inhibition and destruction of the carcinoma cell is unquestioned. As to the matter of killing the neoplasm entirely, that is, of course, another question; but we do know that patients receive beneficial effect from the reduction of the cell processes, from the inhibition of the cell proliferation, from the consequent contraction of the blood vessels and the consequent reduction of the nutrition to the parts. All these things take place, we know, so that whether we are going to entirely rid our patient of carcinoma or not, we feel that he has the right to the *x*-ray treatment. If they get no other benefit than to reduce the pain, prolong life, reduce the size of tumor and control the hemorrhage, it is eminently worth while. I feel like we are making some headway in the matter of technique in the practical application of deep roentgen therapy to these carcinoma cases. It seems to me that every case, whether operable or inoperable, has a right to radiation therapy, with our present knowledge of the subject.

Dr. Desjardins (closing): No sensible radiologist pretends that radiation is a cure-all. Those who do make such claims are not very sensible, because their statements will not hold water. There are two or three things that Dr. Red mentioned which I think are very important. It is true that the operability of certain cases varies with the individual surgeon, and that is bound to occur more or less because of the personal equation. In cancer of the breast, with definite glandular involvement above the clavicle, wide excision is impossible, and for that reason operation in such cases is unwise. Sarcoma and carcinoma are hardly comparable. Carcinoma generally spreads along the lymph channels, and those who are interested can study with profit the book of Handley on "Carcinoma of the Breast." In sarcoma, metastasis frequently occurs early, because in a vast majority of cases it takes place through the blood stream, and small metastatic emboli get lodged in the lungs or elsewhere, and grow. Undoubtedly, there are in the blood certain substances that have an inhibitory or destructive effect on such detached malignant cells. A group of cells may come in contact with the wall of the vessel at one point or another, begin to organize and get nourishment, and a metastatic nodule is the result.

There is no question that radiation properly used, independently, or in conjunction with surgery, has definite value. I deplore very much the disposition of some radiologists and some surgeons, not to be open-minded and frank about the problem and give the patient the advantage of what there may be of good in the two methods. This is unfortunate and many patients suffer from it.

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LEGENDS—Underlines for Cuts.

THE FRACTIONAL-DOSE METHOD IN THE *X*-RAY TREATMENT OF SKIN MALIGNANCIES*

BY

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If cancer is steadily on the increase, as statistics seem to indicate, some one must be responsible for neglect of duty. If, in spite of the fact that surgery has made rapid advances and roentgenologists are becoming more numerous and more proficient; if, in spite of all this wonderful increase in our efficiency in battle with this formidable foe, cancer is increasing with such rapid pace, our efforts to reach the public with the truth about cancer have surely not been effective.

It is no longer necessary to defend the value of the *x*-ray as a therapeutic agent in the treatment of skin cancer. Its efficiency has been established beyond question. It has, however, been argued by those who have had no experience with modern *x*-ray methods, that the roentgenologist has no accurate means of dose determination, and that his methods are wholly empirical and therefore without great value in the scientific treatment of disease. With a view of, in a measure, correcting this misconception, I will attempt to present a brief outline of our methods of estimating the effects of the

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x-rays upon the skin in terms of erythema doses.

It is a well known fact that mild doses of x-rays produce a stimulation of the tissues;

FIG. 1.—Farmer, age 46. The lower lip was cut and bruised five years ago. He was a constant pipe smoker. The lesion had existed for several months, and was growing. Six erythema doses of filtered x-rays destroyed the growth.

that a larger dose will have an inhibitory effect, and that a still larger dose will produce tissue destruction. Accurate dose determination has been a regular subject for discussion since x-rays came into use as a therapeutic agent. A number of methods have been proposed, used more or less extensively for a time and abandoned. The Holzknecht pastilles, the Kienbock strips and the Hampson radio-

FIG. 2.—Farmer, age 49. Nine months ago noticed a small warty growth on the upper lip near the left corner of the mouth. A doctor pinched it off with a pair of pliers. A barber used a solution called "antimole" on it. After this, the lesion grew rapidly. Ten erythema doses of filtered x-rays removed the growth.

meter, so popular for a time, are now seldom used. The ionization method of estimating dosage bids fair to be the method of choice, provided it can be improved and simplified and made more practical. Until something better is provided, the method of dose estimation by means of factor determination should be better understood and in more general use. These methods probably have some defects—most methods have. I am convinced, however, that when properly used we may keep well within the safety limits, and what is of more importance, we have in these methods of dose determination a practical and universal means by which different operators may estimate their dosage to the extent that certain definite x-ray effects may be produced and reproduced, over and over again. Were these methods in general use, patients going from one part of the country to another might carry with them the factors and other points in technique with which they had been treated. Roentgenologists in widely separated parts of the country might follow the same technique and duplicate results obtained by other roentgenologists. These facts should be sufficient justification for popularizing a method of so much practical value.

It is common knowledge, among physicians, at least, that when the skin is exposed to x-rays certain changes, depending upon the quality and quantity of the rays and the length

FIG. 3.—Farmer, age 58. Scaly patches appeared on the lower lip several years ago. Quit smoking two years ago. Had used some strong ointment, which aggravated the condition. The growth involved most of the lower lip, which was indurated and painful. The lesion received eleven erythema doses of filtered x-rays, with satisfactory results.

of the exposure, will take place. The estimation of the extent of such changes when employing known and dependable factors, will give us a working basis for determining the therapeutic dose, a dose, the effects of which are reasonably constant. McKee, and later Witherbee and Remer, have worked out a

FIG. 4.—Age 71. A small blister on the lower lip was treated with iodine. There followed an epithelial proliferation, covered by a thick, horny scab. Treatment consisted of six erythema doses of filtered x-rays directly to the lesion, and a suberythema dose of filtered deep radiation over the submaxillary regions on either side. Recovery was complete.

simple method of dose determination through the use of the primary factors that are an essential part of every x-ray exposure. These factors may be so controlled that a slight reddening or tanning of the skin will result

from one or more exposures. Such an effect on the skin has been named an erythema dose, and the amount of treatment required in a given case may be estimated in fractions

FIG. 5.—Farmer, aged 70. Pipe smoker. Three-fourths of the lower lip was covered with a vegetating mass of a cauliflower appearance, which was discharging a thick, yellow pus of a characteristic odor. No evidence of glandular involvement. Twelve erythema doses of unfiltered *x*-rays removed the growth. There has been no return after a period of four years.

or multiples of this standard dose. When the four primary factors employed in an unfiltered *x*-ray exposure are known, a very simple mathematical formula will furnish an estimate of the amount of *x*-rays used. The voltage times the amperage times the time, divided by the square of the distance, will represent the value of such an exposure, which may be more or less than an erythema dose.

FIG. 6.—Farmer, age 51. A small tumor appeared on the side of the nose and cheek in 1910. In 1920 the tumor began to break down and took on a more active growth. Six erythema doses of filtered *x*-rays removed the lesion, without leaving a noticeable scar.

The erythema dose is determined by selecting the factors which when used will produce a mild reddening of the skin in the average individual. If three milliamperes are allowed to flow for five minutes through an *x*-ray tube operated at a three-inch spark gap with the target placed at a distance of eight inches from the skin, a distinct erythema will appear over the exposed area in from eight to ten days. When these factors are substituted in the above formula, the resulting constant is 45/64, which represents an erythema dose for the conditions specified. Any of the factors may be changed, so long as the resulting figure is 45/64. To determine the value of any *x*-ray exposure in erythema doses, the result of such a computation may be divided by the constant or erythema unit, 45/64, and the resulting quotient will represent the value of the exposure in terms of erythema doses. For example, if we use a five-inch spark gap and five milliamperes of current for a period of five minutes at a target skin distance of ten inches, the fraction will have a value of 5/4. This fraction would mean little to the roentgenologist unless he knew its value in terms of the unit dose. Therefore, in order to estimate the value of this exposure in unit doses, it is only necessary to divide 5/4 by 45/64,

FIG. 7.—Farmer, age 67. A small sore appeared on the cheek about eight months ago. The lesion was nearly as large as a silver dollar; the edges were indurated and it was covered with a hard, dry crust. The treatment consisted of nine erythema doses of filtered *x*-rays, with the result shown in the second picture.

which will result in a quotient whose value is 1-7/9, or nearly two erythema doses. Nothing could be simpler and nothing could be more practical or better adapted to the every day use of the roentgenologist doing therapeutic work. Unfiltered *x*-rays behave in exactly the same manner as light rays, *i. e.*, the effect varies as the square of the distance between the source and the object affected.

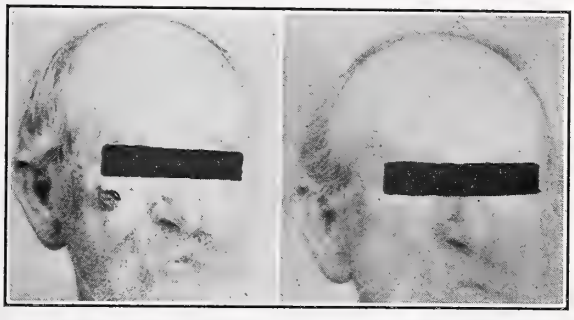

FIG. 8.—Farmer, age 67. A small scaly patch appeared on the cheek six years ago. A plaster was applied two years ago. The lesion was indurated, ulcerated and discharging pus. Eight erythema doses of filtered *x*-rays removed the growth.

According to Witherbee and Remer, filtered *x*-rays do not obey the laws of light; therefore, a separate constant or unit dose must be determined for each thickness of aluminum filter used, ranging from one-half to five millimeters, inclusive. In our skin work we are

using but two thicknesses of aluminum as filters. One-half millimeter of aluminum is used when employing a five-inch spark gap, and four millimeters of aluminum are used

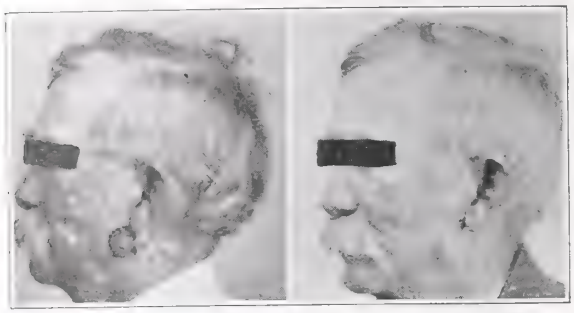

FIG. 9.—Age 62. A small, scaly lesion appeared beneath the ear several months ago. The patient had used an arsenical plaster which destroyed considerable tissue. Ten erythema doses of filtered x-rays were productive of good results.

when employing an eight-inch spark gap. It has been determined that 12.5 for one-half millimeter of aluminum and 45 for four millimeters of aluminum, represent the constants or units for an erythema dose of filtered x-rays. In the formula for filtered doses the target skin distance is not to be squared, but otherwise the factors are to be used in the

FIG. 10—Farmer, 67 years old. Fifteen years ago a small scab formed in the corner of the left eye. Following a pterygium operation the lesion took on a rapid growth, which soon covered the bridge of the nose between the eyes. The case was obstinate and yielded slowly to treatment. Fifteen erythema doses of filtered x-rays were used. While the treatment was heroic, the final results are all that could be desired.

same manner as when estimating the unfiltered dosage.

After arriving at the value of the filtered and unfiltered x-ray exposure in the terms of erythema doses, the troubles of the roentgenologist are only partly solved. He has yet to estimate the number of erythema doses necessary to destroy the lesion in each case. Unfortunately, this problem cannot be submitted to a mathematical solution, or solved by information derived from books or from the experience of others. Dependable knowledge of this kind can only be acquired by long experience and careful observation.

There has grown up among roentgenologists two methods of treating skin malignancies by means of x-rays. The first and older method is known as the "fractional dose" method, and the second is known as the "massive dose" method. It might be of interest at this point to try to define just what is meant by the terms *fractional* and *massive* doses of x-rays, as applied to the treatment of malignant skin lesions. (1) A fractional dose, to be of service in the treatment of skin malignancies, should consist of one or more erythema doses, repeated four to six times at two-day intervals. The lesion should be destroyed without irreparable damage to the surrounding normal tissues. (2) A massive

FIG. 11.—Farmer, 56 years old. Suffered from acne when a boy. Nose was covered with many small scars. A few weeks ago an ulcer appeared on the side of the nose. It spread rapidly from the first. Nine erythema doses of filtered x-rays completely removed the lesion.

dose to be of service in the treatment of malignant conditions of the skin, is characterized by a single heavy dose, which has for its purpose the complete destruction of the lesion without doing irreparable damage to the surrounding normal tissues.

The skin offers no index of the amount of radiation required to completely destroy a malignant lesion. Furthermore, there is no

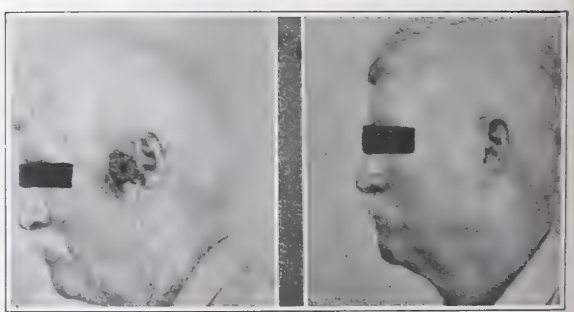

FIG. 12.—Farmer, age 60. A slow-forming ulcer developed beneath a scaly patch, an inch and a half in diameter, in front of the ear. There was a hard, indurated border around the ulcer. The treatment consisted of complete destruction of the mass by electric dessication, followed by nine erythema doses of x-rays.

immediate noticeable change observed in the skin following an x-ray exposure, no matter how large the dose may have been. From the foregoing we conclude that by giving a graduated dose at frequent intervals we may observe the accumulated effect more carefully and produce better results than could possibly

be obtained from a single massive dose, given blindly. The large majority of our cases of cancer of the skin are in elderly people, many of whom live in distant parts of the country and can ill afford the expense of travel and long absence from home. Were these patients subjected to the massive dose method and allowed to go home they would probably not be able to return for further treatment if the results were unsatisfactory. With an experience of more than twenty years in the treatment of malignant skin lesions with the *x*-rays, I am convinced that the fractional dose method has many advantages over the massive dose method, when end results and time are considered. In practically all early and many far-advanced cases of epithelioma, properly directed *x*-ray treatment may be made to completely destroy the lesion without leaving a noticeable scar or any particular amount of skin atrophy. The advocates of the single massive dose usually, in advanced cases, resort to some kind of rapid removal, such as surgery, actual cautery or electric coagulation. In most of these cases, even though a cure is effected, deformity and scarring are very noticeable, and the cosmetic results are often very objectionable.

It is frequently necessary to refer the more advanced cases of carcinoma to skilled surgeons for operative interference before the roentgenologist can hope to give more than temporary relief. On such occasions the competent, fearless surgeon, commands our highest respect and admiration. In the great battle against the cancer foe, the roentgenologist and the surgeon should join their forces and work together for a common end. In every well organized hospital there should be a cancer staff composed of a surgeon, a roentgenologist, a dermatologist and a pathologist, whose duty it should be to examine every case of cancer, decide on the diagnosis and refer the case to the department or departments calculated to give the patient the best chance to recover. While surgical interference is often required in the proper treatment of skin malignancies, there are a large number of these cases that will do far better under radiotherapy alone. As a roentgenologist, I am using a method of fractional *x*-ray dose therapy based upon the foregoing statements, and in further support of what I have said, I am pleased to show a few cases as they appeared before and after treatment. (Figs. 1-12.) The technique used in the treatment of these cases consists of a five-inch spark gap, five milliamperes for five minutes, at a target skin distance of ten inches, filtered through one-half millimeter of aluminum for all superficial lesions. The exposures were given every other day. The submaxillary and supraclavicular glands on both sides received one or more exposures, consisting of an eight-inch spark gap, five milliamperes for ten minutes at a target skin distance of ten inches, filtered through four millimeters of aluminum and four layers of leather.

ABSTRACT OF DISCUSSION.

Dr. Robert N. Milwee of Dallas: I don't think there is any great danger in radiation therapy, if proper precautions are used; in fact, we don't think there is any greater danger in *x*-ray therapy than in surgery, and we know that surgery, among all our therapeutic measures, may be made the agent of great destruction. So can *x*-ray or radium.

Dr. Dalton Richardson of Austin: I endorse what has been said by Dr. Martin. As to cases which have been made worse by *x*-ray treatment, none such have come under my observation. The problem is whether the patient would have grown worse or whether the results sometimes attributed to *x*-rays are not due to the progress of the disease. Just as Dr. Martin says, there is a destructive effect; this is to be avoided. There might have been a time in the history of radiology when destruction was obtained where inhibition was intended, but with modern technique and modern roentgenologists, this is ancient history. I do not believe anyone has seen cases made worse by treatment in the past few years.

Dr. Penn Riddle of Dallas: We should not lose sight of the fact that many kinds of carcinomata metastasize very slowly. For instance, in carcinoma of the rectum the patient will live a long time if obstruction is relieved. The colloidal type of carcinoma of the breast may allow the patient to live twenty years. Irrespective of surgery or *x*-ray therapy, they may die, not from the cancer, but from some other trouble not connected with the cancer. On the other hand, there is no doubt that high voltage therapy is of great value in paliative treatments of carcinoma. I think it is a new chapter in the treatment of cancer.

TREATMENT OF ACNE WITH *X*-RAY.

BY
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The *x*-ray, like all new therapeutic agents, was at first hailed by the lay and medical press as almost a panacea. Many untrained workers rushed into that field, with resulting disaster. Reports, from every hand, of untoward results from overdosage of *x*-rays created a prejudice against irradiation, causing the pendulum to swing the other way, and *x*-ray to fall into disrepute. It was by the tireless and painstaking endeavors of such men as Pusey, MacKee, Remer, Witherbee, Shearer and others, that *x*-ray therapy came into its own. Its limitations and dangers have been proven and its therapeutic value established.

It was only after MacKee, and others, had devised a mechanical method of measuring unfiltered *x*-ray dosage, that the treatment

of many skin conditions became simplified. This mathematical method of measuring dosage has placed, with a fair degree of safety, the treatment of many conditions in the hands of any well-trained physician, provided he be intelligent, a fair physicist and is careful and painstaking. In addition, he must, of course, have modern and tested equipment. A thorough knowledge of the action of *x*-rays, combined with a wholesome fear of an *x*-ray machine, is the most desired qualification.

In the treatment of acne by this method, I have used an interrupterless transformer of closed-core type, with frequently tested meters and a universal type Cooledge tube. The dosage has been determined and measured according to the methods of MacKee and Remer. In the later cases of the series a chamois skin filter has been used. From 208 cases of acne treated in the past four years, I have selected 96 cases for this report, since this number of patients was entirely satisfactory and could be controlled and followed. About half of these were young men, medical students, and the remaining number were young women.

An average of 13 treatments was necessary for recovery. The routine dose was 1/4 M. (skin unit) to each side of the face, and 1/8 m. directly anteriorly, or vice versa, according to the distribution of the lesions. The method of application of the rays is most essential. If they are not applied with most exacting care, poor or indifferent results may be obtained. A painstaking technique will give brilliant and happy results. The distance must be accurately measured, and not estimated. The long axis of the tube should be at right angles to a line drawn to the area treated, and the tube carefully adjusted so that the rays strike perpendicular to the area treated. Again, the rays must be carefully centered. It is the attention to detail such as this that makes for success in the treatment of acne with *x*-ray. One cannot estimate the distance, guess at the time or inaccurately center the tube, and hope to obtain good results. It is needless to say that the hair and eyes are always to be protected by lead.

In the series of cases under discussion, a dosage of more than four 1/4-unit doses was not exceeded in a period of one month, and a total dosage of 4 skin units was not exceeded without several months of rest intervening. Where this routine is adhered to, not a single bad result will be recorded.

Of this series, 90 per cent plus had clinically recovered at the end of a year, and nine, or 9 per cent plus had recurrences. Six of the nine responded to subsequent treatment. Recurrences disheartened two patients so much that they dropped the treatment in spite of the fact that they improved each time they started treatment anew. One case proved refractory to treatment and finally after treatment at intervals during a period of about two years, the attempt was abandoned and the case considered refractory to treatment with *x*-rays. Many did not receive more than six or eight treatments and it was in these cases that most of the recurrences occurred. It has been our custom for the past few months to treat the recurrences with one filtered unit, with a somewhat slower but apparently better result. This method was suggested by Dr. J. C. Michael, at a recent meeting of the Texas Dermatological Association.

While the treatment of acne with *x*-ray is safe, reliable and more efficient than any other forms of therapy, it is not always unattended by certain reactions which, although temporary, may give rise to some alarm and should perhaps be borne in mind. These reactions may occur even when the patient is in no danger of receiving an overdosage, and which are not attended by any distastefu sequel.

Exacerbation of the lesions usually follows the first two or three applications.

Pigmentation, tanning or freckling, occurred in about one-fifth of the cases in this series. Contrary to the statements of some observers, this occurred almost always in the dark-skinned individuals. While often slight this may be a cause for considerable annoyance. I thought this to be due either to the heat or to the very short, light rays given or from the superheated target of the tube. This tanning was prevented almost entirely by covering the areas treated with chamois skin.

An erythema may occur the second or third day after 1/4 skin unit, indicating secondary radiation from the lead, or an excessively hot anode (a leak in the tube will cause the latter). To prevent secondary radiation the lead sheets should have chamois skin covers.

A small percentage of patients in this series, approximately ten per cent, noticed an increase in the down on the face, due to the stimulation of lanugo hairs. This is probably due to the actinic rays rather than *x*-rays and is less often seen when a chamois skin filter is used.

A small percentage of cases will develop a peculiar pallor, which is temporary; the patient may complain of a sallow color. In one of our cases, there were small keloida scars in the healed acne pustules, but as many of the former lesions had resulted

in similar scarring, we did not feel that the *x*-rays had any part in their formation.

These reactions are temporary and while annoying are not permanent, and if the dosage has not exceeded a skin unit over a period of one month, and duration has not exceeded more than four consecutive months' treatment, they should give no cause for worry. If, however, more than this amount is given, any of the well known sequelae of an *x*-ray erythema may follow, such as wrinkling, anetodermia, atrophy, telangiectasis, soft scars, keratoma, or a loss of the lanugo hairs (which give the soft tone to the skin), leaving the bald pate or shiny skin. Less severe effect of overdosage is an excessive dryness of the skin.

I have seen an anetodermia following the administration of three 1/2 skin units doses to a patient in a period of one month, notwithstanding there was never an erythema produced. One must remember that the sequel of an *x*-ray erythema may be delayed months or even years before becoming pronounced.

Nothing but *x*-rays were used in the treatment of these cases, save in the very severe pustular cases, in which a vaccine was used to produce a severe protein reaction, which apparently was of some value in clearing up the pustular element; but the vaccines had absolutely no effect on the acne itself.

SUMMARY.

(1) *X*-ray is a safe and reliable method of treating acne, and is not attended by any bad results if used properly.

(2) Of 92 cases of acne treated with *x*-rays, 90 per cent plus were permanently cured. There was a recurrence of 9 per cent plus, but of this number two-thirds responded to subsequent treatment. Less than one per cent failed to respond to treatment, while in about 2 per cent indifferent results were obtained.

(3) The pigmentation or tanning, stimulation of lanugo hairs, pallor and such transient effects, can be, for the most part, eliminated by the use of a chamois skin covering.

(4) No bad results obtain if not more than one skin unit is administered in one month. Never more than a total of four skin units should be administered continuously. An erythema should under no consideration be produced. Vaccines are of no value save for the effect on the pyogenic element in a small percentage of cases. *X*-ray is a valuable, efficient, safe and reliable agency in the treatment of acne.

THE ROLE OF RADIUM IN GYNECOLOGY.*

BY

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PARIS, TEXAS.

There was a time in the history of abdominal and pelvic surgery when individual skill and low primary mortality were the all important issues when we were confronted with a condition demanding radical measures. The dawn of the twentieth century marked the advent of the most radical, as well as the most spectacular, period in the surgical history of the world. It was not long before the close observer began to suspect that there was something wrong. The burden of the aftermath had fallen upon the shoulders of the balance-wheel of the profession, the conservative, broadminded, general practitioner, who realized that too much surgery was being done.

It was about the beginning of the second decade of this century that we began to realize that our final results were disappointing. Day by day we were confronted by that long train of morbid symptomatology that followed in the wake of our radical measures. Too many pan-historectomies were being done; too many ovaries were being removed. The surgeon began to realize that the invasion of the peritoneal cavity was not to be considered without good and sufficient reason. Time and experience have continued to verify these conclusions, until today it is the real surgeon who hesitates. The operator continues, even though a spirit of conservation prevails throughout the land. It has become increasingly difficult to understand, in the face of the radium and *x*-ray statistics that are being presented each year, why so many radical operations on the female are being done. The death role from cancer is increasing at the rate of two and one-half per cent each year. Radium treatment of carcinoma of the cervix has not only come to stay, but is considered by the majority of the best surgeons as the classical treatment. Except for those cases which are known to be local, it has been removed from the domain of surgery, and even these are being treated by radium before removal.

Janeway[1] lays great stress on the primary mortality, then the morbidity, and finally the comparative statistics of the end results following radium and radical operation for treatment of malignancy of the cervix. Peterson is quoted in the following language:

"Unfortunately, added experience has strengthened my belief that the extended operation for cancer of

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1. Janeway, H. H.: Surg., Gyn. and Obs., Sept., 1919.

the cervix is an exceedingly dangerous operation, always attended by high primary mortality. No one will be more glad to discard the radical abdominal method than will I, if it can be shown that more patients can be ultimately saved by less dangerous methods."

At the time the above statement was made, radium had not been used in cancer of the uterus. In the same article Janeway makes reference to the statement of Jno. G. Clark of Philadelphia, that post-operative sequelae, including suppuration of the abdominal incision, cystitis, vesical fistula, phlebitis, laceration of the rectum, pleurisy, recto-vaginal fistula, occurred in twenty-two of his thirty-six cases, or 75 per cent. Scherer and Keley concluded that the treatment of 218 cases of cancer of the cervix by *x*-ray and radium gave a 10 per cent greater freedom from recurrence than operation formerly gave.

Kelly and Burnam (who have used radium very extensively in gynecology), report their results on the treatment of 213 patients—fourteen of whom were operable. Of the operable cases, four were treated with radium alone, and all are well—two for a period of three years and two for a period of two years at the time of this report. The remaining ten of the operable group were operated upon first, and then treated with radium. All were well at the time of the report, from an interval of from two months to three years. These operators considered these results significant, inasmuch as under operative treatment alone there were 75 per cent of recurrence, 60 per cent of them during the first year.

The principal error (and usually the fatal one) committed by those who use radium in conjunction with radical surgery in malignant diseases of the uterus, is due to the short length of time that intervenes between the use of the radium and the institution of the radical surgical measures employed and considered necessary in cases of this kind. If more than four or five days intervene between the use of radium and the institution of radical surgical measures, the vitality of the tissue is so impaired that our surgery is unavailing, and under these circumstances tissue reconstruction after any degree of surgical endeavor has passed the realm of surgical controversy.

I dwell upon the use of radium in malignancy of the uterus and its appendages because I deem it the most wonderful achievement in the therapeutics of malignancies of the female pelvis of this century. In fact, it is the only agent that has ever given us any hope in cases where there is even a minor degree of fixation of the uterus. Even if we do not cure the advanced cases, the relief of the agonizing pain, and the disagreeable odor attendant upon these cases, is worth while.

In cases of general uterine fibrosis, especially in women under 40, we no longer think of surgery unless the tumor is so large as to cause pressure. A very good rule is to treat every case with radium where the tumor is not larger than a three-months' pregnancy. Of course, all classes of fibroids are amenable to radium, but I am inclined to believe that all submucous or pedunculated tumors should be removed by surgical measures. All subperitoneal tumors are surgical cases. During the child-bearing period, intramural fibroids are better treated surgically, provided the tumors can be removed without hysterectomy. Hemorrhages that have so often proven troublesome at the menopause, are readily relieved by a treatment of from 1,200 to 1,800 M. G. hours.

The contra-indications to the use of radium are: (1) the presence of acute or chronic inflammation in the female pelvis; (2) the presence of cystic tumors, whether originating there, drawn there by gravity, or fixed there by adhesions; (3) when the uterus is larger than a three-months' pregnancy; (4) in cases of uterine polyps, whether intra or extra-uterine; (5) where uterine tumors are undergoing calcification; (6) possibly cancer of the body of the uterus, unless the case is considered inoperable, and (7) in renal insufficiency where radium must be temporarily abandoned.

When confronted with advanced carcinoma of the vagina, or cervix, so richly supplied with lymphatics that in the hands of the most skilled technician the primary mortuary statistics reach from 10 to 20 per cent, with an ultimate outcome that removes surgical measures from the province of controversy, we are no longer justified in resorting to radical surgery.

THE POST-MORTEM TABLE A SPECIFIC FOR CONCEIT—REPORT OF A CASE.*

BY

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It is said that death is the great leveler of classes. It brings to a common point and meeting place the prince and the peasant, and places them upon one and the same plane. So far as doctors are concerned, there is one other great leveler—the post-mortem table. Both the famous and the obscure have a common meeting ground at the autopsy table. Opinions, theories and deductions, are brushed aside. The cold-blooded facts alone are taken into account. Reputation no longer

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serves and protects. From the verdict of the post-mortem table there is no appeal. It is the court of last resort.

The most important and decidedly the most difficult phase of the practice of medicine, is diagnosis. And to it there leads no royal road. The various methods of diagnosis, often slow and sometimes unsatisfactory, must be worked out by one's self. At times and under certain conditions, accurate conclusions before death are impossible. The doctor who does not realize this will sooner or later need a few applications of the post-mortem table to reduce and cool off his conceit. And it will do it! There are no soothing, poultice effects about it. It is the white-hot cautery, applied with a bold hand.

Recently, I saw where the Mayos had made the statement that when checked up by autopsy, only about 46 per cent of their diagnoses were found to be correct. This probably, in a measure, accounts for their modesty as well as their greatness.

The following case is reported for two reasons. First, because it is unusual, interesting and educational; second, because of the various errors in diagnosis, as verified by autopsy.

The patient was a female, spinster, white, age 60. The family history shows nothing out of the ordinary. Personal history shows no illness of any importance previous to the beginning of this attack. The patient was reared in the country and had always worked and led a very active life.

In December, 1921, the patient was visiting in an adjoining parish when she was taken with a severe pain in the left hip and arm. This was diagnosed as rheumatism and a diet prescribed. In a few days all symptoms passed away, the feeling of well-being returned and recovery appeared to be complete. In March, 1922, she was seized with severe pains over the left side of the chest. She was treated for neuritis and improved sufficiently to resume her work. In April, she suffered from pains in the left chest and back. In May, the pains persisting, she was again thoroughly examined by her physician, with no definite findings.

In June, she was referred to one of the most prominent and capable internists in the South. After an examination covering a period of a week, she was sent back to her home physician with the advice that she was suffering from a pleural effusion of the left side. In this same month (June) the home physician drew off five pints of straw colored fluid. Three weeks later she was still suffering from shortness of breath, pain in the left chest and rapid pulse. At this time two pints of the same character of fluid were drawn off. After this she began to show an afternoon temperature ranging from 99° to 100.5° F. Ten days later, the pains and shortness of breath became more severe and aspiration was again attempted, but no fluid was found. On July 23, she was again aspirated and one pint of fluid taken. The afternoon temperature became slight, but the shortness of breath and the chest pains persisted. The last of July she was referred to a chest specialist of excellent reputation and ability. After an examination of three days, this doctor made a diagnosis of pulmonary tuberculosis and placed the patient in a tuberculosis sanatorium for treatment. At this place she was treated until December 17, 1922. During this period she was confined strictly to bed, and in a general way appeared to improve. She put on flesh and reached her maximum weight. The afternoon temperature ranged around 99° F. The pulse was high and there was more or less pain in the chest. There was severe cough and some expectoration.

About the first of November, the chest pains grew worse. The pain in the left hip became unbearable. Nausea and vomiting became troublesome. The patient was obviously sick. On December 17, more for the pain in her hip than anything else, she was sent to a splendid infirmary and placed under the care of a surgeon. She had consultations and repeated examinations, physical x-ray and laboratory. After more than two weeks of this, the diagnosis of tuberculosis was confirmed. The sputum remained negative. The x-ray showed shadows. The patient was sick. Food was repulsive and nausea persisted.

This patient was referred to us, and reached our place January 9, 1923. She came on a cot, as she felt too sick to sit up.

Examination disclosed that the patient was well nourished and fairly well preserved, and she did not look old for her years. There was intense shortness of breath. Severe and continuous pains of the entire chest and left hip, were complained of. The pulse ranged from 84 to 120. The temperature was from 95° to 98.4° F. Respiration movement was lessened, more marked over the left lung. The cough was violent and uncontrollable. The expectoration was from 4 to 6 ounces and watery, with a good deal of thin mucus. Microscopic examination was negative. There was a small amount of fluid in the left pleural space. There was moderate dullness over both lungs, more pronounced over the right. The left lung was silent. There was no more sound there than one would get by placing the phonendoscope on the top of a table. Over the right lung there was bronchial breathing and harshness of all respiratory sounds. There were no rales, even after cough.

With these findings before us, we made a tentative diagnosis of malignancy of the lungs. The outstanding features of the case, which aided us most in reaching this conclusion, were these: The patient was well nourished up to the time of death, after this prolonged illness; the pulse was high and of wide variation; there was no fever; the patient was never free from pain; the lungs showed extensive involvement, but nothing similar to tuberculosis.

The patient grew steadily worse and died March 1, 1923. An autopsy was granted. The following is the report of the pathologist:[1]

"The gross appearance of the left lung shows a small, contracted organ, measuring about eight inches in length by four or four and one half inches in diameter. On splitting this lung, the surface shows solid areas of grayish white, which are also shown in other portions of the dirty gray lung tissue. These white areas vary from minute points to portions as large as a dime.

"The portion from the right lung shows a number of these same white masses, but the lung tissue is much more spongy and nearer normal.

"Gross inspection of the pyloric portion of the stomach shows a marked thickening and hardening of the submucous tissue.

"Microscopic sections were made from the white areas in the lung and throughout the thickened portion of the pylorus. Study of these sections shows the white areas to be composed of masses of cells

1. Hamilton-Stout Laboratory, San Antonio. The entire left lung, a portion of the right lung, and the pyloric end of the stomach, were submitted.

somewhat glandular in form, but with large nuclei, with mitotic figures more or less numerous. These cells infiltrate the lung tissue through, and unquestionably represent the condition of a diffuse adenocarcinoma. The process is much more extensive in the left lung, the areas found in the right lung being, evidently, metastasis from the left. There were some calcareous areas in the left lung, suggesting a probable old tuberculous process, but histology would not indicate any recent tuberculous infection. Sections from the pyloric end of the stomach showed only a chronic inflammatory tissue, with scar formation, and probably had nothing to do with the pathology of the lung.

"Looking into the literature I find that, primarily, carcinoma of the lung occur in about one per cent of all tumors of the body. The condition which we have in this case, I find described in Ewing's Neoplastic Diseases."

THE IMPORTANCE OF POST-MORTEM EXAMINATIONS.*

BY

W. W. WAITE, M. D.,

EL PASO, TEXAS.

Before the days of scientific medicine, when mysticism, superstition and vile drugs, were all that the medical man had, it made little difference to him or to the patient whether he made a correct diagnosis or not; but from the day that man began to learn something of anatomy and physiology, he commenced to recognize different diseases, find medicines for their treatment and see the importance of making a diagnosis. From that day until the present time, our methods of diagnosis have been gradually developed and improved, and the progress continues. We have been continually enlarging our sphere of knowledge in anatomy, physiology, pathology and therapeutics, until today our methods of diagnosis, prevention and treatment of disease, are more refined and better developed, hence more accurate, than they have ever been before. The public in general realize this and come for diagnosis much earlier than formerly, so that the problems with which we have to grapple now are much more difficult than in the old days.

The value of our methods depends upon their accuracy, and in the end, the accuracy of our methods can only be determined by examining specimens removed at operation, or from the body after death, and by carefully checking up our results. Even in the very best hospitals, where the most thorough work is done and most post-mortems made, with findings checked up as carefully as possible, accuracy is far from perfect. Therefore, if working under such favorable conditions, we get such results, how far from accurate must be the diagnosis made by the average physicians, and especially those below the average? Our country expends vast sums in collecting and compiling vital statistics, yet there are only two factors in these that approach anything like accuracy. These two are age and sex. Beyond these facts, the records can be of only partial value, compared to what they might be if large numbers of post-mortems were made.

The first knowledge of anatomy and pathology was gained in dissecting human bodies, and those who have made contributions of real worth to the study of medicine, are those who have spent much time in making careful post-mortems.

In our medical schools and in some hospitals, means are provided for making as many post-mortems as permission can be obtained for. Much knowledge has been accumulated and stored away in libraries, but until we know the language in which it is written, it is of little value to us. In order to become a physician a person must first learn the medical language before this source of knowledge is open to him; then he must acquire certain skill as to how to use it before he can apply it. He is supposed to learn the language and acquire part of the skill in his course in school, but by the time he graduates, he has just been prepared to study. Medical science is gradually progressing and if the young physician would keep up with the progress, he must study his cases carefully, as well as read books and journals. Post-mortem examinations are a great help to him, but the opportunity for making post-mortem examinations in general practice is often very limited and surrounded with many obstacles and difficulties. More than that, many physicians have never been taught to make post-mortem examinations, so that if the opportunity presents itself, they are not prepared to take advantage of it. They become keen in observing clinical symptoms, and collect many facts, but unless they have the opportunity of checking up the results by post-mortems, they do not know whether their conclusions are right or wrong. Working more or less in the dark, they may drift in either one of two directions. They may become either exceedingly cocksure of themselves, which is an undesirable state, or they may become apathetic and indifferent to the real science of medicine, and more or less enamored of the commercial side, thus losing the real end for which they should be working.

At the present time, in places where there are no large hospitals or medical schools, relatively few post-mortems are performed. This is a calamity. Some plan by which the number can be increased should be found and put into use, for the more highly trained and

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 10, 1923.

specialized the physician in any branch of medicine, the more he needs to have at his command, anatomy, physiology and pathology. Unless one is constantly seeing these conditions, his mind grows more or less hazy and he commences to work in the dark, and from that moment he begins to be a back number.

If the post-mortem examination contributes so much in the beginning of our education, there is no reason why it should not continue to help. By seeing carefully performed post-mortems, one can keep one's anatomy firmly in mind, while studying the various pathological changes that are found, thus keeping his mind keen and judgment sure.

Many physicians seem to be afraid of the post-mortem, and seem to think that the dead body is filled with virulent germs. When specimens are shown, or post-mortems done, some physicians are satisfied with long-range views, thus losing most of the benefit. This is wrong, as relatively few bodies, except those of persons dying of acute septicemia, contain germs that are at all serious; in fact, most bodies are far less dangerous to touch or look into, than the mouth of the average patient, which the physician thinks nothing of swabbing out. Knowledge can be gained from the pathological changes and the organs, in more than one way, just as we acquire our knowledge of the living body by seeing, feeling and hearing. We can frequently detect gross changes in the organs by our vision, but there is much to be learned by palpation, this being especially true of new growths. A post-mortem examination always discloses something of interest, and physicians should be encouraged to attend as many of them as possible. The internist can often find things he has overlooked, the surgeon and gynecologist can find diseased conditions they have missed, and all can find how nature has helped them out in many places where they have taken to themselves all credit! In particular, the roentgenologist could make his examinations much more useful by following patients to post-mortem, thereby checking up. Other specialties could profit in like manner.

In medico-legal work, the value of post-mortem examinations is pretty well understood. I will not take time to discuss this side of the subject.

The post-mortem examination to be of real value should be well done. Careful records should be kept, and a copy of the report filed with the history. Many times we are limited in what we can do, but if only a small opening is allowed, in the abdomen, for instance, all of the organs in the abdomen and thorax can at least be palpated and much information gained.

Many times the clinician seems to be interested only in the changes in some one particular organ, and as soon as they have seen that they rush away. This may be right and proper, but if we have a better conception of diseases which so frequently attack all the organs in the body, we would be more anxious to see the post-mortem from beginning to end.

There are only a few communities in which adequate preparation is made for making post-mortem examinations, and the busy physician gets out of the habit of even asking for one. With increased numbers of laboratories scattered over the country, there are enough pathologists available to do many more post-mortems than are at present done, and while pathologists are usually willing to do all post-mortems free of charge, yet if the number done should in any way approach what it should, the pathologists would not be able to give so much time gratis to this kind of work. Therefore, there should be established in every reasonably sized community, a pathological institute, where post-mortems could be done, specimens saved, and from these a museum developed. When post-mortem examinations of importance are made, a well-trained pathologist should do the work, but the pathologist can be keen in his field only by constant practice. Such an institution would develop well-trained pathologists, expert in studying disease conditions, who, whenever need arose, would be able to do first class work. They would also be helpful to the physician in checking up diagnoses. Until this ideal condition can be brought about, I would suggest the following method to increase interest in this important field: The formation of study clubs, composed each of ten or a dozen physicians and a pathologist, membership being dependent upon each member furnishing complete histories of his cases and obtaining a fixed percentage of permissions for post-mortems of his deaths. The club thus formed should meet at regular intervals, review histories of cases and the post-mortem findings. So far as possible, members should be compelled to attend the post-mortems.

The responsibility for permission to make a post-mortem examination must rest with the physician, for he is the only one who comes in contact with the family at this time, and he usually can obtain it upon proper request. Many important cases are lost where a post-mortem in a previous similar case would have been of great value. The public in the end profits most by post-mortems, and they

should be willing to permit them. Some law should be passed making post-mortems obligatory, at least in important cases. In asking permission for post-mortems, it should be explained that the body is not in any way mutilated, and that when dressed there is no evidence that a post-mortem has been done. The importance of this work should be urged. By granting the permission asked, the grantors are adding to the advancement of the knowledge of medicine. They should be impressed with the fact that we owe much to information so gained, and that what physicians do for them has been because of the contributions of someone else. It is often necessary to use diplomacy, but if we go at it with the determination to win, and show interest and enthusiasm, and explain to the family what can be learned, and promise a report, if desired, permission will usually be forthcoming. If this fails, the process of embalming can be explained, emphasizing the fact that one of the vital tissues, the blood, is nearly all removed; that some cutting has to be done; that the intestines are more or less punctured full of holes to remove the gas and contents, and that the destruction which takes place after burial far exceeds anything done at post-mortem examinations.

The result from post-mortem examinations, however, is not a keener knowledge of anatomy, physiology or pathology, but good medical judgment. By medical judgment I mean the ability to gather up all the facts, sift them and make decision quickly and accurately. It is that power that lifts one from commonplace and puts him in the front rank of his profession. It is the acquired sense that enables the physician to do the right thing in the serious case, and win his fight with death against great obstacles. It enables the surgeon to do the right thing in a difficult operation when he finds things different from what he expected. It keeps the sanitarian level-headed in the midst of an epidemic, and is the foundation on which the daily routine is well founded. It is this particular accomplishment which makes the physician admired and honored by his contemporaries and sought after by the select of the public. It is the jewel without price—a fortune which no one can steal—and should be sought after by all who desire to render the greatest service to those who come for aid. And this should be the ultimate aim of every physician —to fit himself to render the best service to those who are sick and need his help.

ABSTRACT OF DISCUSSION.

Dr. G. F. Caldwell of Dallas: Dr. Waite mentions as one of the reasons for post-mortem examinations the fact that it aids the young physician to add to his store of knowledge and to keep up with the progress of medical science. I could scarcely commend this reason too highly, provided it at the same time adds to his diagnostic ability. The real fact is that the importance of autopsies lies in the fact that we may learn to diagnose. So long as we are satisfied to diagnose symptoms it will not be necessary to have autopsies.

Statistics from the leading hospitals of this country show that correct diagnoses are made on an average ranging from 25 to 50 per cent of the autopsied cases. That means that the diagnosis is wrong or misleading in from 50 to 75 per cent of the cases that come under hospital care. That does not include, possibly, the slight ailments. Diagnosis is woefully inaccurate at the present time.

There is no better way for the physician to increase his diagnostic ability than to study his own cases, and see for himself what his patient had. That is the big reason for making post-mortem examinations. Our hospital statistics and our own private records, are practically worthless unless we have the autopsy findings added to the histories of these cases which end fatally. Throughout this country people are studying the records of the Massachusetts General Hospital, not because of the remarkable clinical cases, nor because of the wonderful autopsy reports, but because those records combine those two things—a careful clinical study of the case, and a satisfactory autopsy report on the case. How much more worth while it would be for us to study the cases which have been examined by us, and then finally, in fatal cases, know the outcome from a careful autopsy study. The problem of autopsy is not the difficult thing it may be thought to be. We do not need the finest instruments, nor do we need a thousand dollar autopsy table. The simplest wooden table and the most ordinary instruments will serve our purposes.

The one thing which would improve the status of the practice of medicine in Texas, is a healthy increase in the number of post-mortem examinations. And the obtaining of autopsy permission is not a difficult thing if the physician really wants it. If he does not care anything about it, it is hard to get.

Dr. Wood: In seeking permission to perform autopsies I have found it easy if I convince the family that no harm will be done to the body, and that the deceased would want the thing done for the benefit of those who would be benefited by such knowledge. I always tell in detail the benefits it will be to others and to medical science, and so far I have never had a refusal. Some of my patients have been dressed for burial when I got the desired permission. I think if we ask in the right way, and show the relatives the benefits to be derived, we will get permission nearly every time.

Dr. H. L. Wilder of Clarendon: I live in a town of thirty-five hundred. In the seven years that I have been there I have done nine autopsies. The reason that we in the smaller places do not do more post-mortem work is because of lack of time and desire. Of the nine autopsies that I have done, five have been done all alone. In a place of that size it is necessary to do the work just when you can, at any hour. It is very discouraging to have the doctors fail to come when invited, and to work in the presence of a restless undertaker. I believe, as Dr. Wood says, that if the value of autopsies is made plain to the family, we will not fail to get them in the majority of cases.

Dr. Gibbs Milliken, Dallas: The shoemaker thinks there is nothing like leather, and the pathologist thinks there is nothing to equal necropsies. It is a far cry from the day when the physician had to sneak into the alley and steal the body of his patient in order to make a thorough examination of the

lesions. If the relatives are approached in a common sense manner, they are often perfectly willing that we should perform a necropsy. In Galveston we have found that if we request permission in the correct way, adhere strictly to all promises made the family or nearest of kin, and do not mutilate or disfigure the body, we can obtain permit for complete examination in 65 per cent of the deaths in a hospital. Our average for the past few years has been fifty per cent. However, at intervals this has been raised to as much as ninety per cent.

There is no better method of substantiating a diagnosis than by a thorough exploration of the body after death. The lesion or lesions, can be seen, felt and submitted to the most rigid examination. Sections of specimen can be studied under the microscope, and every phase of the disease thus correlated with the symptoms. That such rigid methods are essential to check our clinical and laboratory methods, is best illustrated by a case that has recently come to our attention. A young married lady had complained of headache, loss of function in the lower limbs, attacks of muscular spasm, loss of memory, girdle pains and tingling of the hands and feet. The clinical and serological diagnosis was general paresis. The patient died, and at necropsy we found not only a well marked paretic process, but to our surprise a diffuse glioma of the left hemisphere of the brain. Possibly this is not of great importance in the treatment or the general handling of the case, but surely it is of importance if we are to make definite diagnoses.

Dr. Waite (closing): I know it is often difficult to do a post-mortem, but in most cities now the undertaking parlors have good morgues, with good tables and good light, and the undertakers are willing to co-operate.

It is difficult to work in the homes, but even under those conditions, in our important cases, it is worth while to make the effort. One case I recall in New York City. We went to a fine apartment and did a post-mortem which revealed a tumor of the brain. We only had partial permission for the autopsy, but after we found the tumor we got further permission and found a hypernephroma.

In another case that was diagnosed cancer of the lung, I did a post-mortem, which revealed a very large, dilated heart. I think if we could create a demand for this work that the people would be willing to satisfy it.

CLINICAL PATHOLOGY.*

BY

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Comparatively speaking, clinical pathology is a new science, and like all new ideas of treatment or methods of diagnosis it has and will continue to have, many ups and downs before it can assume its proper place in the practice of medicine. The troubles of clinical pathology to a large extent are due to pathologists themselves. Not so very long ago there were pathologists who seemed to think it was ethical to advertise their wonderful technique. This was done by circulars sent to physicians directly, and through the advertising pages of our foremost medical journals. As competition increased advertising became more aggressive, and nearly all laboratories began to boast of how they were prepared to send out containers, with full instructions for the collection of specimens, at reduced prices.

Several years ago a warning was sent out by the more conservative pathologists, that after all pathologists were physicians practicing a special branch of medicine, and that they were, therefore, subject to all the rules of ethics to which surgeons, internists, oculists and others were subject. Why this warning sound was not sent out sooner or why some of our medical journals failed to call a halt, is hard to understand. At any rate, this very undignified, unethical medical monstrosity is still going on to this good day, when the Advertising Committee of *The Journal of the American Medical Association* still thinks it is in perfect harmony with good taste to carry advertisements of laboratories boasting their wonderful wares.

Laboratory work requires a high degree of technique, and as a result some laboratory workers not only developed their own technicians but advertised that they were prepared to supply technicians to physicians who did not have time to oversee their own laboratories. As a result, many individual physicians, as well as groups of physicians, still employ technicians to do their laboratory work. Presumably these technicians are supervised by physicians, but in actual practice they are left to themselves. As one who did general practice for a number of years, I can say with all sincerity that I believe it is impossible for a practitioner to supervise a laboratory if he is even moderately busy. One cannot imagine the obstetrician and laboratory director of a group of physicians being of much assistance to the laboratory technician, while attending a confinement case. It has been my experience that even under constant, direct supervision, a laboratory director has his hands full to keep down errors.

Probably the biggest reason why laboratory technicians are employed so extensively by physicians, is that most doctors know very little of laboratory technique or of the interpretations of laboratory findings. This statement is not hard to verify. I have received calls for blood tests for sarcoma, dengue fever, scarlet fever, and in fact, for everything from an ingrowing toe nail to concussion of the brain. When I think of all this I very easily understand "why is a technician." I do not blame the technician, but I do blame the physician who tries to unload a responsibility, because of his own incompetence, on someone not much better qualified.

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 10, 1923.

I am not going to be hard on the practice of sending containers with instructions for the collection of specimens, because many of our brothers in arms need instructions on how to collect specimens. More than fifty per cent of the blood sent to our laboratory from a distance for a Wassermann test, is not in a condition to be tested. Even such a simple thing as a blood smear is, as a rule, very badly made. I believe a physician who knows nothing about laboratory technique and interpretation, or the collection of specimens to be sent to a laboratory, is not giving his patients everything they are entitled to unless he has access to the services of a competent pathologist. In the country, doctors should learn the simple procedure of collecting specimens to be sent through the mail. The ideal is for the pathologist to have access to the clinical history of the patient, so that the case could be discussed with greater understanding between the physician in charge of the case and the laboratory worker.

I believe there is a great deal of misdirected laboratory work being done at the present time, on account of the fact that cases are not discussed as fully as they might be between the pathologist and the physicians in charge of cases. It is almost a daily occurrence with me that a physician orders a certain examination, and then later calls to see whether I also did so and so. Of course, not knowing anything about the case, I only do what I am asked to do. Only a few days ago I was asked to do a Wassermann test on a very nervous woman. It required much explaining before she permitted me to proceed with the venous puncture, which was very difficult on account of the invisibility and impalpability of her veins. Not more than thirty minutes after I returned to the laboratory I received an order for a blood culture on this very same good lady, but I did not have the courage to return at once for the blood required for the blood culture. I waited twenty-four hours, but even this lapse of time did not soften her towards me and she absolutely refused to have any more "sticking" done.

The American College of Surgeons at the present time recommends a routine blood and urine examination of patients that enter "Class A" hospitals. No exceptions are made. Here we have an idea that means well but which really does not benefit the patient at all, in a great many cases. A patient who comes to a hospital for an amputation of a badly lacerated finger, the result of an accident, will not be benefited by a blood count. A man with a fractured radius needs a surgeon worse than a blood count. A child that is sent to a hospital for a tonsillectomy needs, in the majority of cases, nothing but a test for the clotting time of the blood and a urinalysis. Instead of making rules that are iron-clad and permit of no latitude at all, a laboratory director should be the one to decide what laboratory tests should be made. Work that is done in a routine and mechanical manner, will not and can not have the same value as work done for a specific purpose.

Recently, the laboratory with which I am connected was visited by a representative of the American College of Surgeons. He intimated that all tissues removed in the operating room should be sectioned by the paraffin method. Here again we have an example of trying to have laboratory work done with no purpose whatever. "All tissues" means all tissues, with no exceptions. Certainly in the past not enough tissues have been sectioned, but that is no reason why we should now make sections of everything that is removed in the operating room. If this were done, the average laboratory personnel would have to be increased at least four times, and this added expense would have to be borne by patients entering the hospital, with no benefit to be derived in a great many cases. Instead of making an inflexible law, this again should be left to the pathologist to whom all tissues are sent. The section of tonsils and appendices alone would be a big task, and yet only occasionally would the patient receive any benefit from this work. It would be almost as sensible for the city health officer to examine everybody entering the city daily, for bubonic plague, because he might possibly thus find a case that would have been overlooked. Let us examine tissues microscopically, by all means, but let us also know *why* we examine them. Only a few days ago a decapitated five months' old fetus, a piece of gangrenous intestine and a finger amputated after an injury, were sent to my laboratory. According to the rule of the American College of Surgeons, these should have been sectioned, and to what purpose?

Too much laboratory work is almost as bad as no laboratory work. There are so many cases in which it can be of value that there will be a depreciation if it is insisted upon. It is my opinion that there are a great many physicians today who, on account of excessive laboratory work, both *x*-ray and clinical, are neglecting physical examinations. I am not in favor of forcing clinical pathology into its own, but rather would I have this most important specialty of medicine attain its proper place through the slower but surer route of demonstrable merits.

At the present time very little research work is being done in Texas. This is a

deficiency in our scientific work that should be remedied, but how I do not dare say. Most of our general hospital laboratories are not in a position to do a great deal of research work, for the simple reason that they lack funds. Many laboratories are supported by patients entering a hospital, and the revenue thus obtained is barely sufficient to pay a pathologist a living wage, not to say anything of carrying on research work. For the time being, this work will probably have to be left to medical schools and special foundations.

To summarize, I may say:

(1) Pathologists are to a large extent responsible for their own troubles.

(2) The presence of technicians at the head of laboratories is due to some extent to their creation by pathologists, but chiefly to a lack of knowledge on the part of physicians of laboratory technique and interpretation.

(3) Laboratory work should be done with a definite purpose in view, and not as so much routine to force patients through whether it will benefit them or not.

(4) A much closer relationship should exist between pathologists and physicians in charge of cases.

(5) For the time being, not a great deal of research work can be done by most general hospitals, chiefly because of a lack of funds.

ABSTRACT OF DISCUSSION.

Dr. H. L. Wilder, Clarendon: I want to take a few exceptions to the doctor's paper, especially in regard to the general practitioner conducting a laboratory with a technician. If a doctor does not have a technician of his own, many and many a time he will let a patient go without laboratory examinations that are really necessary, because of the expense and time consumed in having the examination made. If the general practitioner will employ a technician, and will see to it that his laboratory is going right, he will, of necessity, be required to familiarize himself with laboratory technic, with the result that he is going to be a better all-around doctor. If he knows how to culture blood, he will know more about its clinical significance than if he does not. If a physician knows when and how to make a leucocyte count, he will certainly know the clinical significance. It seems that I am taking exceptions to most of the paper, but I want to take the stand that every general practitioner should have easy access to a laboratory; there should be one in every county, and this could be arranged for by having a technician to conduct it, under the supervision of some one capable of knowing if the work went right. There is enough work in our county to justify a laboratory, if conducted by a technician who could get the co-operation of all. Such a laboratory might not do the high class work that Dr. Braden will do, because his volume of work will allow of higher priced assistants. But we can adjust ourselves to this just as we do to other things that we may do not so well as the specialist in the city.

Dr. M. D. Bell, Dallas: If a physician has a technician in his office doing laboratory work, and is satisfied with the character of work done, it is perfectly proper for him to have it done that way. The practicing physician is responsible to himself, his patient and his Lord, and he must be as careful concerning the work of the laboratorian as he is in all other particulars. I do clinical laboratory work, and I appreciate work of this character sent to me. I do not want to do the work of any physician who does not think that I can do it better than his technician can do it. Many technicians do good work, and if properly supervised, I do not see why they should not be allowed to continue to do it. However, most technicians working in physicians' offices are not properly supervised. Many physicians, as Dr. Wilder has said, are located in communities where competent pathologists could not afford to locate. Someone should be available for this character of work, particularly the routine work, such as can not be well sent away.

I cannot entirely agree with the author in his criticism in the requirement advocated by the authorities that complete examinations, including laboratory test, be made of every patient admitted. Hospital practice and general practice outside, are two distinctly different matters. The patient who goes to the hospital should have a complete examination. If he has a fractured femur, the surgeon wants to know whether anything else is wrong with him. There may be a co-existing disease that would have an important bearing on the healing of the fracture.

Dr. H. E. Griffin of Graham: I presume that the Mayo Clinic is largely responsible for laboratory technicians going out over the country, and I take the position that even in remote districts, like those Dr. Wilder and I happen to live in, a technician is a liability, just as Dr. Bell has said, and the day that we introduce young men into our various communities who are trained to do laboratory work, and general practitioners send them the work, the better off the community will be, and decidedly better off the doctors will be.

Dr. Braden (closing): I think Dr. Griffin hit the mark exactly. The point I wish to make is that we are not going to induce a great many young physicians to take up clinical pathology, which I think we all agree is an essential part of medicine, unless we make it a little more attractive than it has been in the past. There are exceptions to all rules, but my experience has been, on the whole, that the work of the laboratory technician is not to be relied upon.

MISCELLANEOUS

THE INFLUENCE OF HEREDITY ON THE OCCURRENCE OF CANCER.

The coincident development of the sciences of genetics and experimental cancer research, according to H. Gideon Wells, Chicago (*Journal A. M. A.*, Sept. 22, 1923), has begun to yield evidence bearing on the relation of hereditary influences to cancer occurrence. Human statistical evidence is not of sufficient accuracy or extent to render it of any value in the study of this subject. The occurrence of cancer families is unquestionable, but of doubtful value because of the possibility that such occurrences may depend solely on chance. Family occurrence of rare neoplasms, such as glioma of the retina, multiple neurofibromatosis, and multiple cartilagenous exostoses, cannot be dismissed as depending on chance. Human evidence being inadequate, we are compelled to rely on evidence from observations on animals. It is known that the principles of inheritance are the same in all species of animals as well as in plants, and that cancer, in its fundamental respects, is the same in man as in other mammals; therefore the drawing of conclusions in respect to heredity and human cancer from observations on experimental

animals is justifiable. Such observations have shown repeatedly that an important element in the occurrence of spontaneous tumors in animals is determined by the heredity of the animals under study. Maud Slye has produced, solely through breeding, strains of mice that have never developed tumors in twenty and more generations, strains of mice in which the natural death of the adults is by cancer, and strains with less degrees of frequency of cancer occurring according to the mendelian expectation. In these animals the capacity to resist cancer behaves as a dominant character, the susceptibility to cancer as a recessive. There is evidence available which supports the inference that in man also the susceptibility to cancer behaves as an inherited recessive character.

CHIROPRACTOR LIABLE FOR CARE, SKILL AND KNOWLEDGE OF DIAGNOSIS.

Chiropractic quibbling may not avail a chiropractor in Wisconsin, who through negligence, ignorance or unskillfulness fails to diagnose the disease from which his patient is suffering, according to a decision of the supreme court of Wisconsin, April 3, in the case of Kuschley v. Volgmann; and in diagnosing a case, a chiropractor must exercise the care and skill that is usually exercised by a recognized school of the medical profession. The fact that chiropractors abstain from the use of words like "diagnosis," "treatment" or "disease," said the court, is immaterial. What they hold themselves out to do and what they do is to treat disease, and the substitution of words like "analysis," "palpation" and "adjustment" does not change the nature of their act.

The plaintiff, suffering from nausea, nervousness and headache following a head injury, applied to the defendant, a chiropractor, in September, 1918, for relief and cure. The chiropractor, believing that the nervousness and headache were due to a derangement of the stomach, treated him accordingly. Treatment proved unavailing, and the chiropractor advised the plaintiff, in May, 1919, to go west, in the hope of relief. The plaintiff did so, but the headaches and dizziness, from which he continually suffered, became more severe, and finally he became at times blind. Sept. 10, 1919, the plaintiff presented himself for treatment at a hospital in Chicago, and there his malady was immediately diagnosed as a brain tumor. An operation was done simply to relieve the intracranial pressure, for because of the long time the tumor had been allowed to grow, it was impossible to remove it.

The chiropractic defendant was charged with responsibility because of alleged negligence and want of understanding and skill. He demurred to the declaration, on the ground that one who treats the sick and injured is entitled to be judged according to the principles and methods employed by the school or sect to which he belongs, and he claimed that he had treated the plaintiff according to the methods used by chiropractors. The demurrer was sustained in the lower court. On appeal, the supreme court of Wisconsin said that had the complaint been grounded on neglect or unskillfulness in treating only, the action of the trial court would have been correct. The complaint alleged, however, neglect or unskillfulness in diagnoses. While the duty of diagnosis is ordinarily assumed and performed by licensed physicians, it may be assumed by others, and the defendant having assumed to perform that duty was bound to exercise the care and skill in so doing that is usually exercised by a recognized school of the medical profession. The supreme court, therefore, overruled the demurrer and remanded the case to the trial court for further proceedings.—*Jour. A. M. A.*, April 21, 1923.

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES.

Arsphenamine-Squibb, 1 Gm. Tubes.—Each contains 1 gm. arsphenamine-Squibb (see New and Nonofficial Remedies, 1923, p. 49). E. R. Squibb & Sons, New York.

Arsphenamine-Squibb, 1.2 Gm. Tubes.—Each contains 1.2 gm. arsphenamine-Squibb (see New and Nonofficial Remedies, 1923, p. 49). E. R. Squibb & Sons, New York.

Ampules Pituitary Solution-Squibb, 0.5 Cc.—Each contains 0.5 Cc. pituitary solution-Squibb, (formerly marketed as solution of hypophysis-Squibb (see New and Nonofficial Remedies, 1923, p. 219). E. R. Squibb & Sons, New York.

Ampules Pituitary Solution-Squibb, 1 Cc.—Each contains 1 Cc. pituitary solution-Squibb (formerly marketed as solution of hypophysis-Squibb (see New and Nonofficial Remedies, 1923, p. 219). E. R. Squibb & Sons, New York.

Enteric Coated Tablets Neutral Acriflavine-"National," 0.0324 Gm. (½ grain).—Each tablet contains 0.0324 neutral acriflavine-"National" (see New and Nonofficial Remedies, 1923, p. 25). National Aniline & Chemical Co., New York.

Ointment Neutral Acriflavine-"National"—Neutral acriflavine-"National" (see New and Nonofficial Remedies, 1923, p. 25). One per cent. dissolved in glycerine, 8 parts, and incorporated with a base composed of hydrous wool fat and petrolatum to make 100 parts. National Aniline & Chemical Co., New York.

Thromboplastin-Lederle — An extract of cattle brain in physiological solution of sodium chlorid prepared according to the method of Hess. For a discussion of the actions, uses and dosage of brain extract, see New and Nonofficial Remedies, 1923, p. 129, under Fibrin Ferment and Thromboplastic Substances. Thromboplastin-Lederle is marketed in 20 cc. vials which bear an expiration date. Lederle Antitoxin Laboratories, New York.—*Jour. A. M. A.*, Sept. 15, 1923.

Pollen Allergen Solutions-Squibb.—Solutions containing the sodium chloride soluble proteins from isolated pollens of various species of plants. For a discussion of the actions, uses and dosage, see Pollen and Epidermal Extract Preparations and Biologically Reactive Food Proteins, New and Nonofficial Remedies, 1923, p. 234. Pollen allergen solutions-Squibb are intended for the prophylaxis and treatments of hay fever. They are marketed in the following forms: Set A, ten vials containing ten consecutive doses (Nos. 1 to 10); Set B, five vials containing five consecutive doses (Nos. 1 to 5); Set C, five vials containing five consecutive doses (Nos. 6 to 10); Set D, five vials of dose No. 10; Set E, five vials of dose No. 11. The following products have been accepted: Timothy Pollen Allergen Solution-Squibb and Ragweed Pollen Allergen Solution-Squibb. E. R. Squibb & Sons, New York.

Ragweed Pollen Extract-Swan-Meyers.—A liquid obtained by extracting the dried pollen of ragweed with a liquid consisting of 67 per cent. glycerin and 33 per cent. saturated solution of sodium chloride. For a discussion of the actions, uses and dosage, see Pollen and Epidermal Extract Preparations and Biologically Reactive Food Proteins, New and Nonofficial Remedies, 1923, p. 234. The product is marketed in the following forms: Series 1, five vials containing five consecutive doses (Nos. 1 to 5); Series 2, five vials, containing five consecutive doses (Nos. 6 to 10); Series 3, five vials containing five consecutive doses (Nos. 11 to 15); Complete Series,

fifteen vials containing fifteen consecutive doses (Nos. 1 to 15). Swan-Meyers Co., Indianapolis.

Luminal Tablets, ½ Grain.—Each contains ½ grain luminal (see New and Nonofficial Remedies, 1923, p. 63). Winthrop Chemical Company, New York.

Malt Extract (Unmedicated)-P. D. & Co.—A preparation essentially similar to extract of malt, U. S. P. (see New and Nonofficial Remedies, 1923, p. 177), but containing 10 per cent. of glycerin. One gm. of the extract converts 5 to 7 gm. of starch to maltose and dextrin in thirty minutes at 40 c. Parke, Davis & Co., Detroit.

Malt Extract with Cod Liver Oil—P. D. & Co.—Each 100 cc. contains Norwegian cod liver oil, 25 cc., and malt extract (unmedicated)-P. D. & Co., 75 cc. Parke, Davis & Co., Detroit.

Argyn Tablets, 6 Grains.—Each tablet contains 6 grains argyn (see New and Nonofficial Remedies, 1923, p. 330.) Abbott Laboratories, Chicago.

Tablets Ovarian Substance-Wilson, 2 Grains.—Each tablet contains 2 grains ovarian substance-Wilson (see New and Nonofficial Remedies, 1923, p. 212). Wilson Laboratories, Chicago.

Tablets Ovarian Substance-Wilson, 5 Grains.—Each tablet contains 5 grains ovarian substance-Wilson (see New and Nonofficial Remedies, 1923, p. 212). Wilson Laboratories, Chicago.

Capsules Ovarian Substance-Wilson, 2 Grains.—Each capsule contains 2 grains ovarian substance-Wilson (see New and Nonofficial Remedies, 1923, p. 212). Wilson Laboratories, Chicago.

Capsules Ovarian Substance-Wilson, 5 Grains.—Each capsule contains 5 grains ovarian substance-Wilson (see New and Nonofficial Remedies, 1923, p. 212). Wilson Laboratories, Chicago.

Tablets Ovarian Residue-Wilson, 2 Grains.—Each tablet contains 2 grains ovarian residue-Wilson (see New and Nonofficial Remedies, 1923, p. 212). Wilson Laboratories, Chicago.

Tablets Ovarian Residue-Wilson, 5 Grains.—Each tablet contains 5 grains ovarian residue-Wilson (see New and Nonofficial Remedies, 1923, p. 212). Wilson Laboratories, Chicago.

Capsules Ovarian Residue-Wilson, 5 Grains.—Each capsule contains 5 grains ovarian residue-Wilson (see New and Nonofficial Remedies, 1923, p. 212). Wilson Laboratories, Chicago.—*Jour. A. M. A.*, Sept. 29, 1923.

PROPAGANDA FOR REFORM.

Administration of Insulin.—The present method of administering insulin parenterally are far from satisfactory. Consequently, the earliest investigators of insulin and other pancreatic preparations attempted to secure physiologic effects by oral administration. There is evidence that slight effects may be obtained when insulin or other pancreatic preparations are introduced into the organism by way of the mouth under certain conditions. On the whole, however, the oral administration of insulin has proven quite inefficient. Rectal administration and nasal insufflation have been tried without success. A recent study showed that pancreatic extracts taken in capsule form by the stomach was not effective in decreasing blood sugar or urinary sugar. It is desirable to give wide publicity to the current limitations of a most promising therapy, since unscrupulous venders are already attempting to distribute just-as-good pancreatic or antidiabetic preparations that are recommended for oral use. *Jour. A. M. A.*, Sept. 1, 1923, p. 752.

El Zair.—This is quackery's latest offer of an elixir of life. The nostrum is brought to the attention of the public by El Zair, Inc., New York. The firm claims that the elixir of youth has at last been found. Much is made of the endorsement which the late W. T. Stead is stated to have given the nostrum. El Zair is to be dissolved in water and applied by sponging the body with it daily. The A. M. A. Chemical Laboratory analyzed El Zair and reported that essentially it may be considered to consist of one part of glacial acetic acid and three parts of magnesium sulphate (Epsom salt) perfumed with oil of bergamot. The contents of a bottle of El Zair are to be dissolved in a pint of water and, therefore, an essentially similar solution can be made by dissolving 2½ ounces of Epsom salt in a pint of distilled vinegar.—*Jour. A. M. A.*, Sept. 1, 1923.

Lactic Acid-Producing Organisms and Preparations.—The Council on Pharmacy and Chemistry reports on the present status of sour milk therapy. During recent years reports have been published which indicate that the growth in the intestine of the normally present Bacillus acidophilus may be increased so as to make this the predominating organism, by the administration of lactose, by milk fermented with Bacillus acidophilus, or by the administration of viable cultures of Bacillus acidophilus in conjunction with lactose. Growing out of the claims of favorable therapeutic action, the use of so-called Bacillus acidophilus milk and other products prepared with B. acidophilus has become quite widespread. While no one subscribes today to the original theories of Metchnikoff, there are many who believe that the regulation of the bacterial flora is of importance. There is evidence that the administration of sour milk is at times beneficial, particularly in pediatrics. A wide clinical observation indicates that for certain types of gastric and intestinal disturbances, fermented milk accomplishes more than unfermented milk.—*Jour. A. M. A.*, Sept. 8, 1923, p. 831.

Calcium Chlorid in Hay Fever.—Calcium chlorid seems to be of some use in the treatment of hay fever, but it must be taken in rather large doses during the whole season to be of much benefit—about 1 gm., from four to six times a day. The use of this drug in hay fever is chiefly based on the work of European investigators who have shown that the permeability of the mucous membranes and of the capillaries is decreased by the internal application of calcium chlorid. The treatment is entirely symptomatic, and no permanent relief must be expected.—*Jour. A. M. A.*, Sept. 8, 1923.

Accidents with Local Anesthetics.—The chairman of the committee for the study of toxic effects of local anesthetics, appointed by the Therapeutic Research Committee of the Council on Pharmacy and Chemistry, publishes a preliminary report. The committee has received reports of 42 deaths following the use of local anesthetics occurring within the last few years. These accidents have not been reported on by former committees of the Association. The deaths reported are:

Anesthetic.	Number.
Stovain	1
Alypin	1
Procain	3
Apothesin	4
Butyn	4
Butyn and cocain	1
Procain and cocain	10
Cocain	18
Total	42

Under the headings procain, and procain and cocain, novocain is included—one is reported as procain and the other twelve as novocain. As the five deaths following the use of butyn are the first

reported, the committee is very desirous of receiving full details of other fatalities for comparison of relative toxicity. These reports should be sent to the chairman of the committee, Emil Mayer, M. D., 40 East Forty-First Street, New York City.—*Jour. A. M. A.*, Sept. 15, 1923.

Miscellaneous Nostrums.—The following products have been the subject of prosecution by the federal authorities charged with the enforcement of the Food and Drugs Act: Cowan's Rheumatism Herb (Rheumatism Herb Co.), consisting of dried and moldy leaves of a species of eucalyptus. Jad Salts (Wyeth Chemical Co., Detroit—not John Wyeth Bros., Philadelphia), consisting essentially of citric and tartaric acids, salt, baking soda, sodium phosphate and very small amounts of hextic amethylenamin, lithium carbonate and potassium bicarbonate. Cranes Quinin and Tar Compound (Crane Medicine Co.), consisting essentially of quinin, sodium salicylate, ammonium chlorid, Epsom salt, oil of anise, tar, menthol, table salt, calcium phosphate, sugar, alcohol and water. Crane's Liver Pills (Crane Medicine Co.), consisting essentially of aloes and magnesium carbonate. Crane's Kidney Pills (Crane Medicine Co.), containing methylene blue, hexamethylenamin, plant extractive and iron sulphate. Tekol (Colonial Tablet Co.), containing ground celery seed and cocoa with about a half grain of caffein in each tablet. Veronica Water (Veronica Medicinal Springs Water Co.), containing magnesium sulphate (Epsom salt), sodium nitrate, sodium chlorid (common salt), calcium bicarbonate, calcium sulphate and magnesium chlorid. —*Jour. A. M. A.*, Sept. 15, 1923.

NEWS

Free Vaccination of School Children.—In compliance with the law requiring vaccination of all children attending either public or private schools before November 15, a free clinic has been opened in San Antonio. Children whose parents are able to pay for vaccination are requested to go to their family physicians. By the end of the vaccination period, every child must present a certificate of vaccination before it will be allowed to continue in the schools.—*San Antonio Light.*

The Medical Association of the Southwest held its regular annual meeting in Kansas City, October 11, in conjunction with the Kansas City Fall Clinics. The following officers were elected for the ensuing year: President, Dr. W. H. Addington, Altoona, Kansas; vice-presidents, Dr. L. S. Willour, McAlester, Oklahoma; Joe Becton, Greenville, Texas; O. B. Hall, Warrensburg, Missouri; St. Cloud Cooper, Fort Smith, Arkansas; secretary, Dr. E. H. Skinner, Kansas City, Mo. The next annual meeting will be held in Kansas City, October 13, 1923. *The Medical Herald and Electro-Therapist* was selected as the official organ of the Association.

Nobel Prize for Insulin Discoverers.—A council of the teachers of the Kalolinska Institute recently decided to give the Nobel prize to the Canadian professors of Toronto University, Dr. F. G. Banting and Dr. J. J. R. McLeod, for their discovery of insulin.

It was also decided to give the Nobel prize of 1922, half to Professor Archibald Hill of University College, London, because of his discoveries in the physiology of muscles, and the second half to Professor Otto Mayerhof of the University of Kiel for his researches concerning oxygen, lactic acid and consumption of muscles.—*Fort Worth Star-Telegram.*

Physicians to Charge Insurance Companies.—At a meeting of the Guilford County Medical Society, in Greensboro, (N. C.), January 4, 1923, a resolution was unanimously passed to the effect that physicians of the county should in future charge a stipulated fee to insurance companies for giving information regarding some of their patients. It was stated that a physician by giving information to an insurance company without written evidence that the patient was willing for the physician to give the information risked being sued for damages. A committee will be appointed by the medical society to confer with the several insurance companies on fixing a minimum charge for this service.—*Jour. A. M. A.*

Medical Branch University of Texas.—With 324 students registered in the School of Medicine and College of Pharmacy, the Medical Department of the University of Texas held its thirty-second annual opening October 1.

The opening address was delivered by Dr. Boyd Reading, professor of pediatrics, who traced the practice of medicine back to the Egyptians and emphasized its salient features as a result of modern science. Dr. Henry Cohen of Temple B'Nai Israel, pronounced the invocation.

Because of the limitation of the freshmen class to sixty members, the enrollment probably will not exceed other years, although it is expected that the succeeding days will see additional registrations for the college season.—*Dallas News.*

Dr. Cary Honored by Baylor.—Accepting the recommendation of a group of Baylor University Medical College alumni who live in and near Dallas, the board of trustees of the university, at a meeting in Dallas, recently, officially named the medical science building in honor of Dr. Edward H. Cary, whose efforts and services as dean and chairman of the executive committee were said to have been largely responsible for the raising of the institution to a plane of parity with the best medical schools of the country. The meeting was held at Baylor Hospital, in the hospital's assembly room.

Gov. Pat M. Neff, president of the board of trustees, who spoke from the chair at the meeting, expressed the appreciation of the board of Dr. Cary's long service and voiced the hope that the contact of the "man who had taken it from infancy to manhood" would always be available as an asset to the medical college and the university.

Dr. George W. Truett declared that representatives of the American Medical Association and other professional bodies had told him that the standing of Baylor Medical College and the Baylor Hospital is pre-eminent and that the two institutions are cause for great pride to Texas, to the Baptist denominations and to the individual members of the board and faculties.—*Dallas News.*

SOCIETY NEWS

Bexar County Medical Society met October 4, with 60 members and 4 visitors present.

Dr. Malone Duggan announced that the Study Club on physiology will take up the study of psychology, and urged that all who are interested join the club at once.

Dr. S. P. Cunningham read a paper, "Acute Intestinal Obstruction," in which he stressed the importance of early recognition and early operation, which he stated would greatly reduce the present mortality, which is about 50 per cent. The condition occurs more frequently in children under five years of age, and is more common in males. The differential diagnosis is difficult, but when duodenal contents are found in the stomach, and there is pain, tenderness, vomiting and fever, the condition should be apparent and operation should follow at once. Several cases were reported, among them a case of paralytic ileus, with typical symptoms, in which

operation revealed gangrenous appendix. A second operation had to be done in this case and the patient died eleven hours later. In a case of volvulus, the typical symptoms were present, with no relief from enemas. The operation in this case disclosed obstructive adhesions. The appendix was removed. The author's mortality rate has been 50 per cent.

Discussing the paper, Dr. C. S. Venable thought early diagnosis and early operation more important than any other consideration. Pain may not be depended upon, for the reason that it may disappear before the condition has been corrected. Vomiting duodenal contents is important. The diagnosis should be made before distention takes place, as the mortality from toxemia is high at this time. A rapid pulse is of more importance than an elevated temperature. Operation should be under local anesthetic. Mortality can be lowered by prompt exploration in suspected cases.

Dr. Kaliski said that the location of the tumor depends upon the time it is felt. Rectal examinations are important and the presence of blood is significant.

Dr. Frank Paschal stated that pain, vomiting and obstipation, are the three cardinal symptoms, followed by a variety of other symptoms, dependent upon conditions. Operation is the only hope of relief, and that should be done early. Absence of peristalsis is important. Vesicular murmur is a position sign. In case of doubt, the abdomen should be opened, and if the obstruction can not be found easily, the intestinal tract should be drained without extensive searching.

Dr. Homer T. Wilson urged early diagnosis and operation on suspicion. The *x*-ray may aid in the diagnosis, by demonstrating accumulated gases. In children the opaque enema may give valuable information.

Dr. Cunningham, closing the discussion, said that he did not believe in using enemas, with either gas or fluid, because of the danger of rupture of the bowel.

Dr. A. F. Clarke read a paper, "Syphilis in Relation to Ophthalmology and Oto-Laryngology," in which he stated that interstitial keratitis is nearly always due to syphilis, and that syphilis is a frequent cause of iritis, chorditis, otitis media and eighth nerve involvement.

Dr. Sykes said that the tangent screen perimeter would disclose some intracranial or retrobulbar process in many cases of failing vision. In spite of negative Wassermann tests and the absence of specific history, anti-luetic treatment will clear up such cases. Syphilis can also cause deafness, and one should not be deterred by negative Wassermann tests, in the matter of anti-syphilitic treatment. In a case in which the Barany reaction showed complete loss of function in the left vestibular apparatus, a beginning involvement of the right side, and existing dementia, recently referred to him, anti-leutic treatment gave relief, in spite of negative Wassermann reactions. Ophthalmological and otological examinations are of value in these cases, and should be taken advantage of by internists and neurologists.

Dr. Clark announced that the San Antonio Ophthalmo-Oto-Laryngological Society will resume its regular meetings, which will be held on the first Tuesday evening of each month. Members of the society were invited to attend the meetings.

Drs. Omar Roan, Edwin L. Mueller, Thos. H. Sharp and J. B. Martin, applied for membership.

The following section chairmen were appointed for October and November: Surgery and Eye, Ear, Nose and Throat, Dr. J. W. Nixon, Jr.; Pediatrics and Neurology, Dr. W. M. Bassett; General Medicine, Dr. C. F. Lehman; Obstetrics and Gynecology, Dr. Minnie C. O'Brien.

Resolutions of condolence on the death of the father of Dr. I. S. Kahn, were adopted.

Bexar County Medical Society met October 11, with 40 members and 7 visitors present.

Mrs. Goodfin, representing the White Cross Society, an organization for the suppression of the narcotic evil, delivered an address in the interest of that work. At the close of the address, a committee was appointed to look into the proposition and report back to the society.

Lieut. Colonel R. F. Metcalfe, M. C., U. S. A., read a paper, "Testicular Implantation," in which a brief history of the San Quentin (Cal.) penitentiary experiments was given, and the implantation of glandular substance through a large hypodermic syringe, described. He analyzed 1,000 cases treated by this method, in a majority of which there was benefit. In the main, asthma, impotence, acne, neurasthenia and nervous diseases, were not benefited. He reported five cases he had treated, in each of which there was benefit. He stated, in reply to inquiry, that the testicular substance was used in the treatment of women as well as men.

Dr. Stout, discussing the paper, recalled the visit and address of Dr. Lydston, a pioneer in this field, to the Bexar County Society several years ago. The paper was discussed further by Drs. Manhoff and P. I. Nixon.

Dr. Sidney Kaliski reported a case of Froechlich's syndrome in a child, the *x*-ray showing a very large sella turcica. The report was illustrated with lantern slides.

Dr. Malone Duggan doubted infantilism in this case, because of the age of the patient.

Dr. Mary Robbie discussed the treatment of amenorrhea with posterior pituitary extract.

Dr. Potthast did not believe the case reported by Dr. Kaliski a typical Froehlich's syndrome, because of the fat below the elbows and knees.

Dr. Rosalie Slaughter Morton of New York City, addressed the society on conditions in Serbia, where she had served for some time during the war. She was in the city on her way to Galveston to look into the progress of five Serbian boys whom she brought to this country following the war.

Dallas County Medical Society met September 27, with 76 members and 3 visitors present.

Dr. Geo. L. Carlisle reported a case of arteriovenous aneurysm, resulting from a gunshot wound in the left groin, which had apparently connected the femoral artery and vein, raising the venous pressure to such a height that the hypertrophy of the right heart was becoming marked. There was a well-marked regurgitation at the tricuspid valve.

Dr. Howard L. Cecil read a paper, "Report of Thirty Cases of Perineal Prostatectomy," which was discussed by Dr. Folsom.

Dr. Jno. S. Turner, chairman of the Board of Censors, reported the results of an investigation of Abrams methods of diagnosis and treatment, following which resoulutions were adopted strongly condemning both the theory and practice of the "Electronic Reaction of Abrams."

The application for membership, of Dr. W. M. DeBerry was read and referred to the Board of censors.

Dallas County Medical Society met October 11, with 22 members present.

Dr. E. O. Rushing read a paper entitled, "A New Treatment for Gonorrhea in Women," which was discussed by Drs. DeWitt Smith, F. A. Pierce and Edward White.

Dr. G. D. Mahon read a paper, "Group of Post-Operative Exophthalmic Goiters," which was discussed by Drs. R. W. Baird, W. M. Young and C. M. Rosser.

Dr. W. M. DeBerry was elected to membership on application.

Dr. Rosser delivered an address on the education of the public on the purposes and effects of the Medical Practice Act.

The following committee was appointed to meet Senator Royal S. Copeland on his arrival in the city, October, 20: Dr. C. M. Rosser, chairman; Drs. F. A. Pierce, R. W. Baird, A. W. Nash, H. G. Walcott, Jno. H. Dean, D. L. Bettison, Jno. O. McReynolds, A. B. Small, L. B. Cook, O. M. Marchman, H. Leslie Moore, W. O. Stephenson, David W. Carter, Jr., and B. F. Morgan.

The following resolutions, presented by Dr. F. H. Newton, were adopted:

Whereas, some objections have been offered to the wise policy adopted by the city in turning over to Baylor Medical College for experimental and demonstration purposes, stray and unclaimed dogs which, because of multiplicity and lack of control have or may become a menace and a public nuisance, and

Whereas, it is a matter of universal acceptance in scientifically educated circles that such use of the lower animals is necessary to the progress of the knowledge and skill upon which human beings must depend in the hours of their great physical need, and

Whereas, it is well known by the informed that such experiments are without suffering to the animals so used, Therefore be it

Resolved, that we unhesitatingly commend our city official for the decision they have reached in the matter, and urge that the city government permit no misguided sentiment to cripple a worthy institution of our city, and obstruct the most humane of our endeavors, that of saving human life, and be it further

Resolved, that we congratulate the *Dallas Morning News* upon its sane and unanswerable editorial of recent date, in regard to the controversy, and congratulate the public on having a newspaper capable of coming to such wise conclusions and courageous enough to express them, thus showing a proper sense of responsibility as a leader in public thought.

Harris County Medical Society met September 1, with 38 members present.

Dr. B. F. Smith read a paper on "Lethargic Encephalitis," in which he dealt at length on the symptomatology of this somewhat rare disease, differentiating that disease from other meningeal diseases. Two cases were reported and the brain specimen in each case shown.

Discussing the paper, Dr. F. B. King stated that he had recently seen three cases of this disease, in which the symptomatology varied greatly. Two of his patients recovered, in both of which there followed considerable mental dullness. Dr. Smith believes the disease mildly infectious, and that treatment is of little avail. We really know little of the disease, except as to its pathology.

Dr. E. W. Applebe urged that the term "lethargic encephalitis" be abandoned, and that the disease be called "epidemic encephalitis."

Dr. M. D. Levy said that the spinal fluid in this disease is in no way characteristic, the most common abnormality being an increase in the sugar content. In a recent case there was a paretic curve in the spinal fluid, which disappeared following recovery. The disease may be confused with syphilis of the nervous system. Dr. J. E. Hodges reported a case in which hysterical manifestations were the prominent symptoms.

Dr. C. C. Green read a paper on "Apathy, the Greatest Enemy of Modern Surgery," in which he gave it as his opinion, that most of the errors committed in surgery, are due to indifference, rather than to ignorance, to which should be added, laziness, rush of business and possibly greed. A case in point was reported. A woman with a profuse vaginal discharge, evidently from cervical or uterine irritation, was examined by a surgeon and told that she had cancer of the cervix, and that an operation would be necessary. Another physician was consulted, who gave it as his opinion that there was no cancer and that the discharge was due to slight ulceration. Later on, Dr. Green was called upon to operate in this case but found it too late. The second diagnosis had been made without due examination, and the necessary careful study of the case. Carelessness is quite evident in the diagnosis and treatment of cases presenting symptoms of gastric ulcer. These ulcers are potentially cancers, and should receive every consideration and in most cases, operation. Tumors of the breast are frequently neglected to a serious extent. Procrastination is often fatal in precancerous cases. Frequently the family physician is seriously at fault in advising his patient to do nothing for the time being. The patient will generally depend upon his family physician for advice in such matters.

Dr. J. H. Agnew said that every gastric ulcer should be excised, notwithstanding that they are not all precancerous.

Dr. B. T. Vanzant gave it as his opinion, that physicians need education along the line of cancer prophylaxis as much as does the laity. He frequently sees skin malignancies that have been allowed to progress beyond the possibility of help before being diagnosed. Dr. Smith thinks that cases of obscure stomach involvement should be kept under close observation, pending indications for surgery, the indications being mainly failure to obtain relief by the usual nonsurgical treatment.

Dr. J. C. Michael called attention to the possibility of Paget's disease becoming malignant if neglected. This disease very closely resembles eczema.

Harris County Medical Society met September 22, with 52 members present.

Dr. P. H. Scardino reported a case of pyonephrosis and nephrolithiasis, in an Italian farmer, single, age 19, who had been ill for two years and nine months. During this time, he complained of an aching pain, which grew gradually in intensity, although there were times when it was not noticeable. There had been a rather definite recurrence, the periods of remission ranging between 15 and 90 days. Recently the pain had been more constant and more severe, and there had been vomiting. The pain was definitely located at the costal arch midaxillary line of the left side, and did not radiate. There were no urinary symptoms, the appetite was good and the bowels were regular. The patient denied venereal infection. Cystoscopic examination revealed capillary injection of the mucosa of the left upper lateral wall, which was more intense as the trigone was approached. The trigone was deeply congested, with engorged and tortuous vessels showing. An area of inflammation surrounded the left ureteral orifice, which was regular in outline, relaxed, but not gappings. A number 6 catheter met with obstruction on each side, at a distance of 10 cm. The urine escaped freely from the right side, but came in very small amounts from the left side. About 60 c.c. of a 10 per cent sodium bromide solution was injected on the left side. The right side could not be filled, because of an obstruction. Flat roentgenograms showed two small, opaque, faceted bodies in the region of the lower pole of the left kidney. A pyelogram showed the tips of both catheters a short distance within the lower ends of the ureters. The calices of the left kidney were distorted and clubbed. Operation had to be resorted to before the kidney

function could be tested. The left kidney was removed. It measured 7x4x3 inches, with an enormously dilated pelvis, and was almost totally devoid of fatty capsule. The lower pole of the kidney extended to the brim of the pelvis, from which point a band of kidney substance about two inches in diameter extended across the vertebral column and was fused with the other kidney. The kidney was widely distended with fluid. The patient has progressed nicely, eight days after the operation, and will doubtless recover.

Dr. A. H. Braden, discussing the case, stated that the most common organism found in these cases, is the colon bacillus. Infection may be by contiguity, upward, or by extension through the blood stream. In this case, it was evidently from the bladder.

Dr. J. B. Legnard was of the opinion that the two kidneys in this case communicated. The attachment of the ureter in this case appears to be rather high. There is nothing characteristic of the horse-shoe kidney, except that it is never in the median line. It is not readily recognized.

Dr. W. E. Ramsay read a paper, "Colon Stasis or Constipation," which he held to be the great American evil. The onset is often insidious and the effects direful. The proximal portion of the large intestine contains liquid, and the distal portion solid material. In the proximal portion, the movement is usually antiperistaltic. This delays the passage of fecal matter, permitting absorption and digestion. Among the chief causes of colon stasis is neglect. The nerves of the rectum become accustomed to the pressure from its contents and fail to urge evacuation. Sedentary habits and improper diet, are also of importance. The condition results, likewise, from the abuse of cathartics. Women are more frequent sufferers than men. Hemorrhoids and rectal fissure reflexly produce stasis. There is usually irritation and inflammation of the mucous membrane, and absorption of toxins from fermentation. There is then a chronic catarrhal condition, and a thinning and dilation of the wall of the colon. Because of this thinning process, large tumors sometimes form at various portions of the intestine, possibly resulting in perforation. The symptoms of the condition are varied. There is usually lassitude, mental depression, headache, impairment of digestion, loss of appetite, nausea, colicky pains and distention. Sometimes the headache is violent, and is accompanied by vertigo and a rapid pulse. Sometimes there is fever and severe abdominal pains. The treatment involves, first of all, discovery and correction of the causes. Exercise, massage and diet, constitute the main reliance. Drugs should be avoided as much as possible, and when used they should not be irritating or productive of excessive peristalsis. Magnesia, mineral oils and rectal injections, are valuable. Agar-agar is perhaps the best remedial agent in most of the cases. It absorbs water, forming a genatinous mass, which does not permit the feces to become hard. Linseed and white mustard seed, act in the same manner.

Dr. Wm. Strozier, discussing the paper, reported a case in which the bowels moved only once in six weeks.

Dr. J. H. Agnew said that the treatment for spastic and atonic types of constipation are different. The *x*-ray will help differentiate between the two types.

Dr. E. W. Applebe urged that exercise, when prescribed, be carefully outlined, because of the disposition to overexercise, or fail to carry out instructions. Electricity, properly used, is of value in the treatment of the atonic type.

Dr. M. D. Levy recalled that Dr. Graves of Galveston, permitted his typhoid patients who were on a low caloric diet, to ge as long as 27 days without a bowel movement. The dangers of constipation are frequently impressed too strongly on the patient, resulting in an untimely resort to drugs. Some patients are constipated in spite of a bowel movement each day.

Dr. J. E. Hodges does not believe that a person can go as long as five or six days without a bowel movement without some permanent injury resulting. He said that constipation is a frequent cause of arteriosclerosis.

Dr. Johnson called attention to the intimate connection between the mind and the intestines. He said that constipation rarely causes trouble in the insane.

Harris County Medical Society met October 6, with 50 members and one visitor present.

Dr. H. L. D. Kirkham delivered a lecture on "Fractures of the Mandible," which was illustrated with lantern slides. The author dealt at length with the anatomy and the deformities resulting from different types of fractures. He stated that there has been little change in method of treatment during the last few hundred years. The surgeon should assume full charge of these cases, and not shift the responsibility to the dentist, who, perhaps, is not in a position to do more than assist and advise in the treatment of the cases. The subject was further discussed by Drs. Vanzant, Red and David.

Dr. J. H. Graves read a paper on "Bald Heads: Etiology and Treatment," in which he contended that the condition is a direct result of civilization, the most common cause being pressure from the hat. He called attention to the fact that women are rarely bald, and that they do not wear hats which constrict the scalp. It is rare to find a bald-headed person among the uncivilized tribes, and these never wear hats. He held, also, that the shape of the head to some extent accounts for baldness, and points to the parts played by heredity in this condition. He presented charts illustrating the blood and nerve supply and the like, of the head and scalp.

Dr. James P. Westmoreland offered himself as a clinic. He gave it as his opinion that heredity plays the most important part in the production of baldness, and stated that he had been bald since he was 21 years old, and had never worn a hat until he was 19 years old; therefore, pressure from the hat could not be the cause in his case.

Dr. S. C. Red recalled a paper he had presented to the society twenty years ago, in which he argued much as Dr. Graves has argued. He explained that lack of baldness in women was due to the excess of hair, which by its weight alone kept the scalp in good condition.

Dr. J. C. Michael said that no one knows the cause of baldness. There are two types, the idiopathic and the symptomatic, the latter being the most common, and the type in which there is the most hope of benefit from treatment. This is due to the fact that the cause in this type is generally some infection. It may progress slowly for ten or fifteen years and result in complete baldness. There is usually much seborrhoea in these cases, and slightly stimulating applications may be of service.

Dr. J. E. Hodges said that the infectious type might be checked by local applications. In his opinion, the shape of the head played an important part.

Dr. Wm. Lapat called attention to the fact that in Mexico, the natives wear very heavy hats, some of them weighing 25 pounds, and it is rare to see a bald-headed Mexican. They wear their hats practically all of the time.

Dr. E. W. Applebe called attention to the possible part played by the internal secretions.

Dr. F. B. King believes that baldness is hereditary to a certain extent, and that pressure has little to do with the condition.

Dr. Wm. Strozier called attention to the fact that women are rarely ever bleeders, which may have a bearing in the case, directly or by analogy.

Harris County Medical Society met October 13, with 35 members present.

Dr. T. A. Talley presented a case of acquired hydrocephalus, in a child eleven months old, which had been under his care since it was seven weeks old, at which time he was called on account of a severe case of diarrhea. Several physicians saw the patient at that time, but there was nothing apparent except the intestinal disorder. A little later, meningeal symptoms appeared. Shortly after that time, the head of the child began to enlarge. There was no abnormality at birth. The patient takes food regularly and seems to be about normal mentally. The head is enormously enlarged, the sides diverging in a manner typical of the disease. There is a slight exophthalmus, with a downward cast of the eyes.

Discussing the case, Dr. E. W. Applebe thought it of prime importance to determine whether there is obstruction to the flow between the ventricles and the spinal canal. This may be done by injecting a neutral solution of phenolphthalein in the ventricles, and subsequently examining the spinal fluid for its appearance there. If there is no obstruction, the prognosis is good, provided the fluid be drawn off through the spinal canal.

Dr. F. O. Calaway was of the opinion that the prognosis in this, as in all other cases of the sort, is bad. Most patients develop mentally up to a certain point, and then ceases to progress. The chances of benefiting the patient by drawing off the spinal fluid, are very slim. There would be benefit for a time, from drawing off the fluid from the ventricles, but prognosis should be guarded.

Dr. I. L. Pawelek reported a case similar to that under discussion, in which the spinal fluid was drawn at regular intervals. The patient recovered.

Dr. R. M. Hargrove read a paper on "Acute Abdominal Surgical Conditions in Children," in which he dealt with all possible conditions requiring surgical intervention, but mainly the more common conditions, such as acute appendicitis, intussusception and intestinal obstruction. He urged that the time to intervene surgically, if at all, is at once. It is difficult to diagnose appendicitis in children, but when so diagnosed, operation must follow immediately. Typical intussusception is easy to diagnose, but there are many atypical cases. It is difficult to convince parents that surgery is demanded in such cases. Dr. Hargrove reported a case of intussusception in which operation was delayed because of indefinite symptoms. The condition was corrected surgically, eventually, and recovery was rapid and complete. However, the condition seemed to return, and a second operation disclosed that there was complete obstruction of the bowel because of torsion of the mesentery. Notwithstanding the situation was desperate at the time, the patient rapidly and completely recovered.

Dr. D. Green stated that intussusception required treatment equally as heroic as that for appendicitis, once diagnosis is made.

Dr. N. N. Allen agreed that intussusception and appendicitis are always surgical, the difficulty being the length of time frequently required to make diagnosis. In the case reported by Dr. Hargrove, drainage of the intestine through the cecum, doubtless saved the patient's life. The case was also discussed by Drs. Hodges, Graves and Cody.

Tarrant County Medical Society met September 2
with 31 members present.

Dr. John Potts delivered a lecture on tuberculosis covering the several distinct phases of that disease He held that babies are practically free of tuber culosis up to two years of age, following which the may begin to show infection. Tuberculous menin gitis in babies is usually a terminal disease. Betwee the ages of 2 and 14 years, adenitis, meningitis an orthopedic tuberculosis, the latter involving mainl the spine, hip and knee, are most common. Tuber culosis in adults is a chronic disease, and is periodi the periods varying in length and the disease i severity, during the periods of exacerbation. Th first symptom in adults is usually a simple pleurisy this symptom being tuberculous in origin in 90 pe cent of cases. Patients suffering from pleurisy should be told that they are tuberculous and taugh how to overcome the disease. About half of thes patients, particularly where there has been effusion will spit blood within five years. Between the age of 18 and 21, tuberculosis begins to be noticed, th patient suffering periods of ill health. When thes patients get well and do not get sick again, they ar said to have had the abortive type of the disease. I the early stages of the disease, we are dealing wit the patient's feelings, and usually in the absence o positive findings. Patients with tuberculous cervica adenitis, seldom have pulmonary tuberculosis. Th tubercle bacillus has an affinity for the lymphati system. It invades other tissues only when it has ove comes resistance there. The disease, on an averag requires two years to kill a patient under 25 year of age, and from two to forty years, if at all, afte that time. A very small percentage of patients wit tuberculosis, die from that disease alone, after 2 years of age. If the physician waits until the patien gets sick before making a diagnosis, it is often to late. The substandard conditions, such as asthenia nervousness and digestive disturbances, should b given close attention from the beginning. Thes people are often not sick, but are merely complaining In nearly all cases, where definite diagnoses hav been made, the patients tell of a variety of sic spells, which are significant in the light of subse quent events. People should be instructed to kee their babies away from persons afflicted with chroni coughs, if they desire to avoid tuberculosis. At autop sy, it is not uncommon to find evidences of tubercu losis in persons who gave no history which would lea to a diagnosis of tuberculosis. Muscular spasms an atrophy of the chest, especially above the clavicl should not be overlooked in making diagnoses. I was formerly taught that there are remissions o the disease, but it is now thought that the immunit built up by patients suffering from tuberculosis breaks down, and there is a new infection.

The by-laws of the society were changed so as t allow dues to be prorated in the case of applicant who have recently located in the county, after th State fee of five dollars has been paid.

Dr. F. A. Schoonover was elected to membershi

The premedical students of Texas Christian Un versity were by motion extended a cordial invitatio to attend the meetings of the society.

Tarrant County Medical Society met October 16.

Dr. T. H. Thomason presented a patient, an elderl man, who had two months previously injured himse in the inguinal region, by falling against a chai An abscess formed immediately following the acc dent, which was opened and drained. The woun continued to drain and a mass formed above Pou part's ligament. Drainage was through a sinu below this ligament, and the mass, above the liga ment, was about the size of a walnut. Luetic trea ment did not benefit the patient. The microscop

showed the mass to be neoplastic, and it was removed, together with the glands draining that region. The case was held to be of special interest because of the rapidity of the growth following injury, and because of the doubt as to whether it was of sarcomatous or carcinomatous nature, and also whether it was primary or secondary. The case was discussed by Dr. Frank Beall.

Dr. Thomason also presented a case of arteriovenous aneuryism, in the leg of a young man. The aneurysm followed a stab wound received in the leg eight years ago, which had healed, following considerable hemorrhage. About two years ago, the same leg was injured on a barbed wire fence, resulting in an ulcer which would not heal. It was this ulcer that called attention to the aneurysm. The foot and leg were discolored and swollen and the circulation was sluggish. There was a small mass on the inner side of the thigh, and palpation easily disclosed a thrill or purring, accompanied by pulsation.

The case was discussed by Dr. Frank Beall, who felt that the situation should be left alone for the present, but that eventually relief would have to be given. One of the principal dangers is the involvement of the heart, the blood pressure being raised considerably by the back pressure.

Dr. Chas McColloum read a paper on "Enemas, High Colonic Irrigations and the Rectal Tube," showing in connection therewith, *x*-ray plates. illustrative of his contentions. It was the opinion of the author that enemas and irrigations could be given with equal ease and effectiveness. Because of the construction of the bowel, and its position, a flexible colon tube will double on itself, as a rule, and a stiff colon tube may cause damage, and rarely can be manipulated into a very high position in the bowel. All that is needed for an enema is a tube that will reach above the sphincter. The paper was discussed by Dr. E. H. Bursey.

Dr. O. R. Grogan read a paper on "Infection of the Hand," in which he stressed the necessity of free drainage, irrigation, hot compresses, and careful incisions. The paper was discussed by Drs. I. L. Van Zandt and C. F. Clayton.

Drs. Goman Teddlie, Joseph McVeigh and Wm. S. Webb were elected to membership.

Upon her application, a transfer card to the Wayne County (Michigan) Medical Society was directed issued to Dr. Bessie Kellogg.

Northeast Texas Medical Society met in Longview, October 9, with 65 members present. President Dr. A. C. Scott of Temple, and President-elect Dr. M. F. Bledsoe of Port Arthur, were present, and addressed the society on organization problems of interest at this time, particularly as relate to the forthcoming campaign of public education on medical subjects.

The following scientific program was rendered: "Hematuria," Dr. Frank Schoonover, Fort Worth; "Renal Decapsulation Aids Therapeutic Remedies," Dr. Will Cantrell, Greenville; "Exophthalmic Goitre, Its Surgical Treatment," Dr. G. D. Mahon, Dallas; "Radiotherapy in Malignancy and Sterility" (lantern demonstration), Dr. Hilliard Miller, New Orleans; "Radiotherapy in Malignancy" (lantern demonstration), Dr. S. C. Barrow, Shreveport; "Some Interesting Surgical Cases," Dr. J. Spencer Davis, Dallas; "Protection of the Innocent Against the Incompetent," Dr. A. C. Scott, Temple; "Policies of the State Medical Society," Dr. M. F. Bledsoe, Port Arthur; "Tuberculin Reactions, Their Nature and Diagnostic Value," Dr. Frank Littlejohn, Marshall; "Malarial Hematuria," Dr. M. D. Levy, Houston; "Insulin and Its Practical Application," Dr. Chas. T. Stone, Galveston; "Congenital Ankyloblepharon: Report of a Case," Dr. Edgar H. Vaughn, Tyler.

The following officers were elected for the ensuing year: President, Dr. V. R. Hurst, Longview; vice-president, Dr. Claud Scaff, Clarksville; second vice-president, Dr. Frank Littlejohn, Marshall; secretary and treasurer, Dr. Wm. Hibbitts, Texarkana.

The next meeting will be held in Clarksvile, the second Tuesday in April, 1924.

A largely attended public health meeting was held during the evening. Drs. Scott and Bledsoe delivered addresses on the various aspects of scientific medicine and the practice thereof, in which the public should be interested.

NEW AND REINSTATED MEMBERS.*

Alexander, J. C. Houston.
Barron, W. P., New York, N. Y.
Bishop, Ida, El Paso.
Bomar, C. V. Gulf.
Caldwell, A. G., Canadian.
Carr, K. K., Devers.
Cate, Clifton C., Morgan.
Cayo, E. P., Beeville.
Collins, John D., Caddo.
Crockett, Jno. A., Beeville.
Darnall, H. O., El Paso.
Davison, B. W., Port Arthur.
DeBerry, M. W., Dallas.
Dunlap, R., Leuders.
Elliott, Monroe L., Sherman.
Ford, J. F., Dallas.
Fulbright, C. W., Port Arthur.
Gray, Rodger W., Breckenridge.
Grimland, G. A., San Antonio.
Hampton, Jas. A., Dallas.
Hanson, W. L., Dallas.
Harrison, J. W., Houston.
Hays, Herbert, Houston.
Homan, D. C., Oglesby.
Huffaker, D. H., El Paso.
Jones, Z. G., Palo Alto, Calif.
Kellogg, Bessie A., Detroit, Mich.
Kneip, A. T., Houston.
Largent, J. W., McKinney.
Lawrence, D. H., El Paso.
Letzerich, C. W., Harlingen.
Love, Thos. S., Dallas.
Lowder, E. L., Leuders.
Lukins, Harry, Dickinson.
Lytall, Sam W., Quinlan.
Malone, J. A., Beeville.
Martin, W. H., Houston.
Moers, R. H., Houston.
Mullin, Joseph, Houston.
McCloud, T. C., Graham.
McFarland, Van E., Eagle Pass.
McLaughlin, E. G., Gladewater.
McVeigh, Joseph F., Fort Worth.
Parke, J. N., San Marcos.
Patton, L. K., Amarillo.
Perkins, W. L., Grapevine.
Piclett, W. F., Dallas.
Powell, Homer, Dallas.
Rockett, F. W. B., Dallas.
Rogers, V. S., El Paso.
Ryon, J. H., Dallas.
Sanders, C. H., Fort Worth.
Sanders, Gurley H., Kerens.
Smart, J. H., Dallas.
Sandlin, J. W., Humble.
Schoonover, Frank F., Fort Worth.
Shannon, H. M., El Paso.
Sharp, D. S., El Paso.
Smith, J. J., Barry.
Slataper, F. J., Houston.
Smith, Lindsey, Austin.

*Since publication of membership list in June JOURNAL.

Smith, Sidney J., Houston.
Stewart, S. H., Desdemona.
Sparks, J. E., Houston.
Sublett, C. M., Fordyce, Ark.
Surman, A. C., Post.
Sutton, R. S., Bartlett.
Swope, S. D., El Paso.
Terry, E. E., Longview.
Thomas, G. N., El Paso.
Townsend, E. D., Llano.
Tucker, W. A., Slaton.
Vinsant, W. J., San Benito.
Walker, P. M., Dallas.
Ware, T. P., Kyle.
Webb, William S., Fort Worth.
Williams, W. G., North Zulch.
Woolsey, H. U., Penelope.

CHANGES OF ADDRESS.

Dr. W. H. Bennett, from Lamesa to Philadelphia, Pa.
Dr. R. L. Coble, from Zephyr to San Antonio.
Dr. H. C. Eargle, from Graham to Fort Worth.
Dr. J. E. Fleming, from Bonita to Pilot Point.
Dr. S. A. Foote, from Bay City to Houston.
Dr. J. E. Gower, from Lipscomb to Spearman.
Dr. H. E. Leuhrs, from Ojuela, Estado de Durango, Mexico, to San Benito.
Dr. R. M. Prather, from Beeville to San Antonio.
Dr. D. D. Smith, from Kerens to Denton.
Dr. Geo. T. Spencer, from Graham to Dallas.
Dr. H. A. Winters, from Port Arthur to Houston.
Dr. B. W. Wright, from El Paso to Los Angeles, Calif.

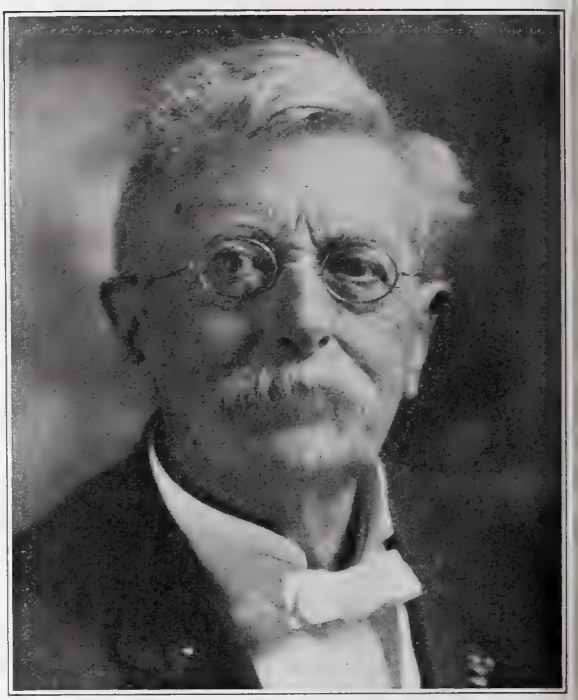
DEATHS

Dr. William Myers died at his home in Seguin, June 20, 1923.

Dr. Myers was born in Hamburg, Germany, July 2, 1845, and was, consequently, nearly 78 years of age at the time of his death. He came to this country at the age of 18, after having received an academic education in Germany. He graduated in medicine from the University of Cincinnati in 1873, immediately following which he entered the Army as a contract surgeon. In this capacity he saw active Indian service in Wyoming and other northwestern states, and was stationed in various communities in South Carolina, Alabama and Texas. He left the Army in 1885, locating in San Marcos, Texas. In 1887 he removed to Seguin, where he spent the remainder of his most valuable life. He married a Miss Fernanda Reich of New Braunfels, Texas, October 25, 1887. To this union were born three children, Mrs. Irma Arnold of Seguin, Adolph of Dallas, and William, at present a student in the University of Texas.

Dr. Myers was connected with organized medicine almost from the beginning of his practice, and was accounted one of its strongest advocates. He was a charter member of the old Southwest Texas Medical Society. When the State Medical Association was reorganized in 1903, he was among the first to rally to its support, and actively push the work of organization. Until late years, he rarely missed an annual session of the State Association, or any of the meetings of the county or district societies. He served in every office in the county society, and was at one time president of the district society. In 1922 he was made vice-president of the State Association, in deserved recognition of his long and faithful service to organized medicine. At that time, and in further appreciation of his services, the Comal-Guadalupe Society, through which he held his membership, tendered a banquet in his honor, which was attended by many prominent citizens of Guadalupe county and prominent physicians from the State at large.

Dr. Myers had held numerous positions of public trust. He served at one time as county and city health officer, and during the administration of Presidents Roosevelt and Taft, he was postmaster at Seguin. He had been examining surgeon for the United States Bureau of Pensions since January 15, 1883. Upon learning of his death, the Commissioner



DR. WILLIAM MYERS.

of Pensions sent the following message to the local board: "I am sending you a word of appreciation of the service of Dr. Myers, who, for more than forty years was an able and conscientious examining surgeon for this bureau. The department feels that it has suffered a very distinct loss in his death. I am sure it will be a satisfaction to his family to know that he left a stainless record and a memory revered by all who knew him." Dr. Myers was a devoted member of the Episcopal Church and the Sons of Herman. He was an Odd Fellow, an Elk and a Mason.

That the community aprpeciated the devoted services of Dr. Myers is evidenced by the following quotation from the *Seguin Enterprise*: "Dr. Myers has been one of Seguin's most prominent physicians. Highly educated and cultured, he was a man to command the respect of everyone. Always prompt in the discharge of every duty, he answered every call made upon him. No weather was too inclement, no trip too hard, if the message came that his services were needed. Without a thought of self or financial gain, he was as prompt to render medical assistance to the poor and needy as to the richest in the town. And many there are who should call him blessed for the fine service so freely given. His success in life may well be measured by his many deeds of kindness and untold acts of charity, known only to his God, himself and the recipients."

Dr. James A. Bradbrook of Asherton, Texas, was assassinated July 9, 1923.

Dr. Bradbrook was born in Chester, Pennsylvania, May 30, 1886. He was educated in the common schools of his home town, and graduated in med-

icine from the University of Kansas City in 1911. Following graduation he served internships in the Metropolitan Hospital and Seaview Hospital, both in New York. Upon completion of this service, he attended clinics in London, England, subsequently accepting a position as superintendent of the Preston Hospital, Preston, Cuba, in which position he remained from September, 1914, to July, 1917. He was married to Miss Bernice Sission of Preston, Cuba, June 19, 1917. Immediately following his marriage, he relinquished his position with the hospital,

DR. JAMES A. BRADBROOK.

locating in Asherton, Texas, where he entered general practice. In June, 1918, he accepted a commission in the Medical Corps of the U. S. Army, serving with distinction until July 21, 1919, when he was discharged. He then entered the service of a large sugar company in Santo Domingo, where he remained for a year, returning to Asherton at the conclusion of that employment and re-entered the general practice of medicine.

Dr. Bradbrook was a member of the La Salle-Frio-Dimmit County Medical Society. He was a physician of ability, and enjoyed the respect of his fellow practitioners and the esteem of those whom he served in the practice of medicine.

BOOK NOTES

This is an awful subject, and one I almost fear to touch with my unhallowed hands; but I can tell you what those say who have authority to speak.—*Huxley.*

Heliotherapy. By A. Rollier, M. D., Medical Director of the Institutions for Heliotherapy, Leysin; Laureate of Academy of Medicine, Paris, Etc. With the Collaboration of A. Rosselet, D. Sc., M. D., Lecturer on Physiotherapy, Geneva University, Etc.; H. J. Schmid, M. D., Surgeon at Rollier's Institutions, Leysin; E. Amstad, M. D., Surgeon at Rollier's Institutions, Leyson, and with Forewords by Sir John Henry Gauvain, M. A., M. D., M. R. C. S., L. R. C. P., and Caleb Williams Saleeby, M. D., F. R. S. Small 8vo., pages 288, cloth, illustrated. London, Henry Frowde and Hodder & Stoughton, The Lancet Building, 1 Bedford Street, Strand, W. C. 2. 1923. $5.00.

The author and his collaborators are men of much experience in the sun-treatment of tuberculosis, and what they have to say in this text indicates a record of success that entitles them to a respectful reading by those of the profession who are sincerely interested in the treatment of this disease.

There are ten chapters, "The Therapeutic Action of the Sun-bath;" "General Technic of the Sun-bath;" "Regional Heliotherapy in Tuberculosis;" "Contra-Indications of Heliotherapy;" "The Indications for Operative Interference;" "Work—During and After Treatment;" "Helio-Hygeine;" "Statistics;" "The Scientific Basis of Heliotherapy;" "A Physical and Biological Study of Light;" "The Radiological Diagnosis of Osteo-Articular Tuberculosis and the Radiographic Control of the Clinical Results of Heliotherapy;" "The Adjuvants of Heliotherapy;" "Heliotherapy of Nontuberculous Diseases."

Legal Medicine and Toxicology. By many specialists. Edited by Frederick Peterson, M. D., Manager Craig Colony for Epileptics; Walter S. Haines, M. D., late Professor of Chemistry, Materia Medica and Toxicology, Rush Medical College, and Ralph W. Webster, M. D., Assistant Professor of Medical Jurisprudence, Rush Medical College. Second edition. Two octavo volumes, totalling 2,268 pages, with 334 illustrations, including 10 insets in colors. Philadelphia and London: W. B. Saunders Company. 1923. Cloth, $20.00, net.

VOLUME I is devoted to the legal aspects of medical practice—The Legal Rights and Obligations of Physicians; Identification of the Living; Identity; The Signs of Death; Death from Cold, Heat, and Starvation; Death and Injuries by Lightning and Electricity; Wounds; Gunshot Wounds; Burns and Scalds; Railway Injuries; Injuries and Disorders of the Nervous System Following Railway and Allied Accidents; Speech Disorders; Inebriety; The Stigmata of Degeneration; Mental Disorders in Medicolegal Relations; Mental Defect Group; Mental Perversions of the Sexual Instinct; Malingering and Feigned Disorders; Summaries of the State Laws Relating to the Insane; Legal Aspects of Pregnancy; Legitimacy—The Determination of Sex—Signs of Delivery; Birth and Legitimacy; Abortion; Infanticide; Impotence and Sterility; Rape; Unnatural Sexual Offenses; Marriage and Divorce; The Medicolegal Aspects of Vision and Audition; the Medicolegal Relations of Venereal and Genito-urinary Disorders; The Medical Jurisprudence of Life Insurance, and The Medical Jurisprudence of Accident Insurance.

VOLUME II is devoted to Toxicology, and all other portions of Legal Medicine in which laboratory investigation is generally an essential feature, such as, General Principles of Toxicology; Forensic Questions Relative to Poisoning; The Technic of Medicolegal Post-Mortem Examinations; Inorganic Poisons; Gaseous Poisons; Death from Asphyxia; Alkaloidal Poisons; Nonalkaloidal Poisons; Industrial Toxicology; Food Poisoning and Food-borne Infections; Poisonous Mushrooms; Poisonous Proteins; Post-Mortem Imbibition of Poisons; The Destruction and Attempted Destruction of the Human Body by Fire and Chemicals; Death from Pounded Glass and Other Mechanical Irritants; Medicolegal Examinations of Blood and Bloodstains; Medicolegal Examination of Seminal Stains; Medicolegal Examination of Hairs; Medicolegal Relations of the *X*-rays, Radium and Ultraviolet Rays, and The Common Law and Statutory Obligations of Pharmacists.

From the general array of scholarly talent employed in the revision of this work, it can be seen that no pains have been spared to make it the masterpiece of its kind. Authors, editors and publisher, are to be congratulated upon the success they have achieved. No work of its class has ever enlisted more resources of learning and ability. No quarter of the civilized globe has failed to contribute its quota to the text.

The Colloidal State in Its Medical and Physiological Aspects. By Sir William M. Bayliss, F. R. S., M. A., D. Sc., LL. D., Professor of General Physiology in University College, London. 12mo., pages 95. Cloth. Illustrated. London. Henry Frowde and Hodder & Stoughton, The Lancet Building, 1 Bedford Street, Strand, W. C. 2. 1922. $2.15.

"This monograph is to be regarded as an attempt to give a short account of the properties of colloids, so far as of interest in connection with the phenomena occurring in living beings.

"Although the characteristics of the colloidal state are mainly physical, or rather physico-chemical, the chemical aspects of the problems are not neglected. Thus the book is neither one on the physics nor on the chemistry of colloids, but tries to include both.

"In point of fact, the boundary between these two branches of science is rapidly becoming obliterated."

Thus the author, in his preface, tells us of the scope of his work. It is good in its field.

The Urethra and the Urethrascope, a Manual of Practical Urethroscopy. By F. Carminow Doble, M. R. C. S., L. R. C. P. Lond; Temporary Captain, R. A. M. C.; Officer in Charge Gonorrheal Division, Military Hospital, Rochester Row; Hon. Casualty Out-Patient Surgeon, St. Paul's Hospital, London. With Foreword by Major A. T. Frost, O. B. E., R. A. M. C., Officer Commanding Military Hospital, Rochester Row. Cloth. Small 8vo., pages 120. London. Henry Frowde and Hodder & Stoughton, The Lancet Building, 1 and 2 Bedford Street, Strand, W. C. 2. 1923. $3.40.

This little manual is of merit, and well deserves the study of physicians, and especially of such as assume to treat genito-urinary diseases. The author is well qualified to write upon the subject chosen for discussion. The following from the table of contents indicates what is to be studied in this text: "The Urethra and the Urethrascope;" "The Anterior Urethra;" "The Posterior Urethra;" "The Female Urethra." Forty-five illustrations accompany the text.

Regional Anesthesia, Its Technic and Clinical Application. By Gaston Labat, M. D., Lecturer on Regional Anesthesia at the New York University; Laureate of the Faculty of Sciences, University of Montpelier; Laureate of the Faculty of Medicine, University of Paris; Formerly Special Lecturer on Regional Anesthesia, The Mayo Foundation, University of Minnesota. With a foreword by William J. Mayo, M. D. Octavo of 496 pages, with 315 original illustrations. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, $7.00 net.

After witnessing operations under regional anesthesia (and it is our belief that the author's assertion that "regional anesthesia has come to stay" is true), we venture the remark that such work should be avoided by the surgeon who is in a hurry, for whatever may be said in its favor, and that is much, in these days of hurry-skurry operations, it is often not only made an instrument of torture to the flesh, but is dangerous to life itself. No surgeon will begin an operation under a general anesthesia until the patient is rendered totally insensible to pain, but we saw one good surgeon begin a suprapubic prostatectomy before the spinal anesthetic had become entirely effective, and witnessed the patient's sufferings, during nearly half of the procedure. On the other hand, a patient of ours was recommended to a dentist for the extraction of all of her teeth. Gas was given, and an old pulmonary lesion aroused. Two or three months of fever and severe cough resulted in copious expectoration of mucopurulent material from the affected lung. Here a local anesthetic would have averted a long and tedious sickness, as afterward proven in the same case and in the hands of the same dentist.

The author of this book realizes these serious hindrances to the development and progress of local anesthesia, and urges that "the anesthetist must have an accurate knowledge of anatomy and a high degree of technical skill in order that the anesthesia may be safe and satisfactory, and the operation not delayed. Heretofore, few surgeons have given the time necessary to master the methods of adminstration, and the details have been carried out by assistants equally unqualified." He urges, in the foreword, that it is best to overcome these inherent defects, and to use some form of general anesthesia in some cases. Especially does he think this true in cases of chronic abdominal disease, where general peritoneal explorations are necessary. He says, "A combination of regional anesthesia and a little ether given at the proper time is satisfactory, although in abdominal surgery general ether anesthesia is so satisfactory that most surgeons are content not to use the regional."

The object of the book is to give adequate instruction in the use of regional anesthesia, and to teach the reader how to use it successfully. He recognizes local infiltration, as practiced by many surgeons, as most valuable and correct, but condemns "the injection of an anesthetic solution at random in the structures to be cut through," though easy, as showing neither skill nor experience. He says, "It is not sufficient to have watched a few operations performed without the aid of general anesthesia to believe that it is possible for any surgeon to use the method with equal advantage. It is not sufficient to have been at a few demonstrations in regional anesthesia to believe that it is possible for any man to give it successfully. Experience is absolutely necessary. It can be acquired rapidly by practice provided one knows what to do and how to do it. This is what the author proposes to teach."

The volume consists of fourteen chapters, with a foreword by William J. Mayo, and an introduction by the author. The chapter titles are: Method; Instructions to Operating Room Nurse; General Principles of Technic; Blocking of Cranial Nerves; Operations on the Head; Blocking of Spinal Nerves; Operations on the Neck; Operations on the Upper Extremity; Operations on the Thorax; Operations on the Abdomen; Genito-Urinary and Rectal Operations (including the Cesarean Section); Operations on the Lower Extremities; Intraspinal Block (Spinal Anesthesia); Discussion on Spinal Anesthesia, and General Discussion of the Value of Regional Anesthesia.

The author of this book is eminently qualified to speak upon the subjects discussed, as is shown by the titles his work has won for him, and the distinguished honors conferred by the great faculties with which he has been and is yet connected.

The book is built of excellent and strong material. The printing is good and the type clear and readable. The binding is of the best cloth. The illustrations are designed to help the student.

Texas State Journal of Medicine

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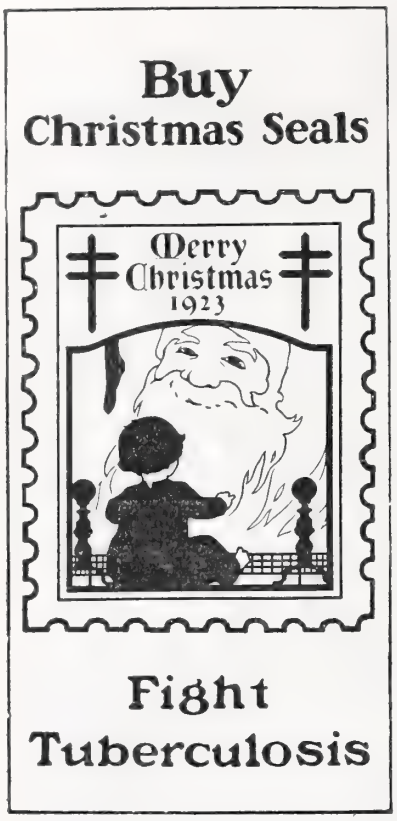
DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH OF TEXAS

A Christmas of Good Cheer and Brotherly Love is our best wish for our readers. Burdened with care, the physician needs to engage in enterprises conducive to cheerfulness. The Christmas season is admirable for that purpose, although it was perhaps not originally so intended. It happens that the principles involved in the pleasure of children and the spiritual relief of adults are the same. The child is carefree, and receives its greatest joy in the absence of restraint, when it may be perfectly natural and follow its inclination. Grown to maturity there enters another element—entertainment, frequently quite the reverse of freedom from restriction, and even quite different from personal bent. Any occupation which will absorb the energies and activities of the individual, will give that individual pleasure, particularly if there is an element of competition and an opportunity to excel. Success is the big thing. It is fortunate that we are disposed to strive for success, and that service offers inducements capable of taking precedence over self-indulgence. Civilization has its foundation in this fact. But there is a law, inexorable in its application, that the end sought may become the means and the means become the end—or words to that effect. The accumulation of money for the purchase of ease and plenty often results in the development of the miser, who buys only the necessities of life. The war lord who ruthlessly destroys persons and property may have in the beginning had proper purposes in accumulating power. The commercial trust, ruthlessly stamping out competition, perhaps had its inception in the desire to avoid needless expenditure and reduce overhead. And so it goes. In the midst of a world filled with stress and endeavor, uncertainty and disorder, crime and carelessness, there is need for agencies which will induce cheerfulness and good fellowship. We have, unconsciously, perhaps, endeavored to meet this requirement with the great variety of organizations having for their purposes the development of fraternity and good fellowship. These have in many instances succeeded admirably, and as often failed. There are seasonal new growths, and crops, good, bad and indifferent, are gathered in due season. The Christmas should serve us well in this particular. We have accustomed ourselves to many Christmas practices which are good if carried out in the proper spirit. Let us have a care that we do this. In no walk of life will satisfaction be so keen as in that trod by the medical profession. The reason is obvious. No affection between men is so keen and so enjoyable as that existing between comrades in battle. This fact is given expression in the spontaneous term "Buddy," an inspiring heritage of the World War. The physician is engaged in a battle which is due to last throughout his life, and he has many

> Come, my dear colleagues, fill the cup that clears
> Today of past regrets and future fears:
> Tomorrow! Why, tomorrow we may be
> Ourselves with yesterday's sev'n thousand years.—*The Doctor's Rubaiyat.*

"buddies." He should realize that and take advantage of the sentiment. We can do that this Christmas quite appropriately, in view of the enterprise in which we are about to engage, the renewed battle against ignorance, viciousness and quackery.

Tuberculosis, Seal It Up With Christmas Seals.—Once more we are asked to buy Christmas Seals, those little messengers of mercy that have become so familiar to us during the past several years. The Texas Public Health Association, which has charge of the sale in Texas, informs us that we must use 40,300,000 of these before Christmas. Placed end to end, this number of seals would reach from San Antonio to Denison, following the S. A. & A. P. tracks to Houston and thence by way of the Katy. That figures out something like 636 miles. The task thus laid out would seem stupendous were it not for the fact that there are lots of us to do the job. In the latest war it was some undertaking to move a thousand-mile front, but each soldier had only to consider his part of the task and do his best—or worst. So it remains for each of us to utilize our own opportunities to the best advantage in taking up whatever surplus of seals there may be on hand.



This is no passing whim. It is a serious movement and directed by serious people. As evidence, we might point to the attitude of the Government. The postoffices in the larger cities are authorized to use in their stamp canceling machines the slogan "Christmas Seals Stamp Out Tuberculosis," and the sale of the seals is permitted in the various postoffices throughout the country. Those of us who are acquainted with governmental methods and policies will appreciate the force of this endorsement. The National Tuberculosis Association, in which the ownership of these seals resides, is too well known to warrant discussion here. The Texas Public Health Association is likewise well known to our readers, but it may be pointed out that this organization is in active co-operation with the State Health Department and the State Medical Association of Texas, not to mention the women's organizations and numerous welfare organizations having to do with health. The women become interested in the movement primarily in support of the Modern Health Crusade, inaugurated in the schools of our country upon the plans put forward and perfected by the National Tuberculosis Association. The value of this movement among the school children can be realized when it is considered that the children of today are the citizens of tomorrow, and that in the period of childhood the most permanent and convincing impressions are made concerning the affairs of life. It is said that health habits are in this manner being taught to nearly 30,000 school children in Texas alone. Incidentally, statistics show that 300,000 children in the United States under the age of five die annually from preventable diseases.

We are informed that through the sale of these seals last Christmas, the following results were attained, not to mention a number of others of equal importance in the aggregate, but of minor importance in particular:

One hundred fifty-eight thousand, eight hundred and fifty-four persons were reached through the informational campaign.

Nearly 300,000 pieces of literature were distributed.

Thousands of children were taught health habits through the Modern Health Crusade.

Nearly 3,000 school children were given complete physical examinations.

Over 800 health lectures and school talks were given, and full time Mexican and negro workers employed.

There needs to be more of this sort of work done. The State Board of Health is doing the best it can with the available appropriations, and everybody is helping. This is one of the ways we should help. There are local societies throughout the State, subsidiary to the State and National organizations already referred to, which participate in the profits from the sale of these seals, and which in fact carry on the work of these organizations locally and sell the seals in their respective localities. We have before us the report of one of these organizations, from which we quote the following, as an evidence of what can be done:

"The Modern Crusade in the city schools have enrolled 8,000 school children. The Health Tournament was participated in by 17,000 children.

"Two public health nurses have been on duty, one as executive secretary and the other as visiting nurse. These have co-operated with the medical profession and other organizations having to do with health.

"Individual instructions have been given to 203 tuberculosis patients, not counting the members of their respective families.

"Numerous public meetings in the interest of health have been conducted by the nurses.

"Sputum cups have been distributed to thirty-one patients who were not able to purchase these essential aids in the prevention and cure of the disease.

"Numerous pieces of literature have been distributed.

"Thirty-five patients have been induced to enter sanatoriums, county, state, national and private, for the treatment of tuberculosis.

"The nurses have co-operated with the city-county clinics in all tuberculosis work.

"The Department of Health of the City Board of Education has been assisted in health examinations, in an effort to segregate children likely to become tuberculous or who are in the early stages of the disease. During the present term, 6,145 children have been examined, and there yet remains 23,000 to be examined."

The Solution of the Tuberculosis Problem will come when the medical profession realizes that the disease may be diagnosed early and the people learn that it is to their advantage to see that every case of tuberculosis that may be reached is cured, and cured as promptly as possible. The development of tuberculosis as a specialty in medicine has led us to the conclusion that only the highly specialized physician can diagnose the disease in its incipiency—and by incipiency we mean not the early days of active manifestation but the days when the symptoms are indefinite and may be the result of a variety of causes. This is a mistake. With no desire to minimize the difficulties met with in diagnosing tuberculosis in any of the stages prior to its most frank manifestations, we insist upon it that the procedure is comparatively simple in a vast majority of cases. The truth of the business is, that much must be taken for granted, and that it is better to play safe than be sorry. In other words, the diseases should always be suspected, and when symptoms may not be accounted for readily and specifically, the routine tuberculosis regime should be instituted and maintained for a sufficient time to enable the attending physician to determine with reasonable certainty whether or not the patient is tuberculous. If the determination may not be made after a reasonable time, then the specialist should be called. Of course, if the attending physician will not take the trouble, or is not given the opportunity to make the necessary investigations, the patient should be referred to the specialist to begin with.

Whether or not the period of early childhood is the only time of life in which the infection may gain a definite foothold, the fact remains that a large proportion of the cases do begin there, and whatever observations may be made in regard to early diagnosis are particularly applicable to children of substandard health.

The opinion has become prevalent, also, that tuberculosis, particularly of the lungs, may be properly treated only in hospitals, and hospitals built and conducted for that purpose exclusively. Strictly speaking, that is not true. It may easily be that because of home conditions success may be attained only in hospitals, but that is another story. It is quite probable, also, that a well conducted sanatorium is the best place for most patients suffering from this disease. It sometimes happens that the home life of the individual will interfere with proper treatment; it also frequently is the case that patients sent to sanatoriums suffer such depression from

lonesomeness that they would be better off in almost any sort of home.

On the whole, considering the patient and the family, the sanatorium is an essential factor in cure and prophylaxis. This fact has been recognized, and tuberculosis sanatoriums have been springing up all over the country in fairly satisfactory numbers. That we are still far short of the desired number in many sections of the country, is also clear. The National Tuberculosis Association, which has been gathering statistics on this phase of the problem and giving considerable thought to the subject, estimates that there should be at least one bed for each death reported in a community. The estimate is also made that there is one death per year for each nine cases of active tuberculosis. During the first six months of last year there were 1,733 deaths from tuberculosis in Texas, according to the State Health Department. That this report covers only a portion of the deaths is certain. The State Tuberculosis Sanatorium urges that there are at least 10,000 deaths per year, and that there are 90,000 cases of active tuberculosis in the State. There are 1,964 beds in Texas available for tuberculous patients. The estimate of the National Tuberculosis Association as to the number of deaths occurring in the State is 3,369, which is in keeping with the report of the State Health Department. It will be seen that Texas is still far short of the necessary number of beds. The total number of deaths from tuberculosis in the United States, according to the latest census, was 99,650, and the total number of beds available to the tuberculous was 54,755. The estimate of the number of beds required takes into consideration the annual turnover, by cure, death and "graduation."

The local tuberculosis society of one of our counties recently employed a trained worker to conduct a tuberculosis survey. The disclosures were remarkable, and pointed so clearly to the need of a local tuberculosis sanatorium that steps were immediately taken to expand and improve the service of a very inadequate sort of tuberculosis colony, and it is not unlikely that in the near future steps will be taken to erect a modern sanatorium for the cure of this disease. The rule that tuberculosis cases may not be accepted in the private and public hospitals, which is nonsense, so far as modern medicine is concerned, makes it essential that something of the sort be done in every thickly settled community in the State. The medical profession should join with welfare organizations in insisting that this be done. In the survey above referred to, it developed that out of 1,085 cases, 964 were legal residents of the county, 62 lived outside of the county and the legal residence of 59 could not be established. The problem, therefore, is essentially a local one. Incidentally, the survey mentioned carried out the usual observation that most of the deaths are within the economic age of 16 to 45.

It is said that King Tut died from tuberculosis more than five thousand years ago. Whether or not that be true, it is quite likely that the disease existed at that time. It is an interesting speculation as to the part this disease has played in keeping the population of the world within bounds, and what the future will be. During the nineteen years of intense activity in this field, the death rate from tuberculosis has been reduced more than fifty per cent. If even this rate of decrease can be maintained, the end is in sight, and fate will necessarily seek other agents of destruction. With the same intelligent attention to other diseases, the millenium will, indeed, be in sight. Probably the physician will make a good automobile mechanic, and no doubt the surgeon would do well as a butcher.

In the Treatment of Tuberculosis the pendulum is about to swing back to the specific end of the arc. The medical profession has from the beginning anticipated the eventual discovery of a specific, and the recent experiments of Professor Georges Dreyer with defatted tuberculosis vaccines, appears to be a long step in that direction. A discussion of the preceding experiments, or of the scientific principles involved, is not appropriate here. Perhaps it will be of interest to our readers to quote from a letter on the subject, written upon our solicitation by Dr. C. M. Hendricks of El Paso, who has recently returned from England, where he went to study this particular problem:

"I have always felt that there was a reason why tuberculin did not accomplish what we had hoped it would in the treatment of tuberculosis. About three years ago Captain Douglas of Hempstead, London, England, a co-worker with Sir Almoth E. Wright, suggested that vaccines prepared from bacteria that were acid fast did not produce the results that were obtained from bacteria that were nonacid fast, and knowing that the acid fastness was due to a fatty capsule about these bacteria, he proceeded to study the question more closely, and attempted to defat certain organisms. After several experiments he did not succeed.

"Professor Dreyer, professor of bacteriology at Oxford University, London, England, acting on the suggestion of Captain Douglas, began a series of studies and experiments along the same line. He succeeded in defatting the tubercle bacillus, as well as many other organisms. He paid most attention to the tubercle bacilli because his experiments proved that they contained the most fat and were therefore the most difficult to defat. His process was very simple, but tedious. He took the dried bacilli *en masse*,

placed them in an agate mortar and proceeded to grind them, adding from time to time a few drops of a 40 per cent formalin solution. This procedure was kept up for an indefinite period of time, and the mass dried and extracted with acetone. The residue was again treated for fat, and if any remained, the procedure was repeated, and so on until all fat disappeared. Professor Dreyer also found the bacilli retained their antigenic power after such treatment.

"The first therapeutic test of this antigen was on rabbits that were infected with tuberculosis. The experiments were so satisfactory to him and his coworkers that in April of this year, it was decided to begin experiments in human tuberculosis.

"I had been following Professor Dreyer's work and had become very much interested in it. Recently I decided to visit England and see first hand what could be seen. Professor Dreyer was not in England during my visit, but I saw Dr. Inman, the pathologist in charge of Brompton Hospital, who is a personal friend and coworker of Professor Dreyer. He had some 46 patients under treatment and observation but was not willing to make any statement as to results or progress. Most of the cases had been under treatment from five to seven weeks only. I did learn, however, that the patients were gaining in weight, averaging about one-half pound per week, and some had lost their fever; also that cough and expectoration had been reduced. A few patients were under treatment at Hempstead, with like results, as well as a few at St. Mary's Hospital in London. Doctors Fildes and Western, at the London Hospital, have had sixty cases under treatment since the latter part of April, 1923. Among these cases were 36 of tuberculous adenitis; 11 of skin tuberculosis; 4 of pulmonary tuberculosis, active pyrexial; 3 of joint and bone tuberculosis; 1 of tuberculosis peritonitis; 1 of tuberculosis of the urinary tract; 1 of iridocyclitis, and 3 of epididymitis. Most of these cases had been under the personal observation of these physicians for considerable periods of time, up to five years, and were selected for treatment with Dreyer's vaccine—or antigen, as they prefer to speak of it, as having shown little or no improvement under treatment with tuberculin (B. E.). They told me that improvement had taken place in nearly all cases, and that it was their opinion that the improvement obviously exceeded that obtained from any other form of treatment applicable to these conditions. They also said they did not observe any toxic effect following the inoculations.

"At St. Mary's Hospital, London, Sir Almoth Wright stated that it would take five years to prove the value or nonvalue of this antigen, and deplored the fact that it had been broadcasted before the experiments on human tuberculosis had proven conconclusive. Practically all agreed, however, that theoretically it was the greatest step yet taken in the direction of an immunizing agent in tuberculosis.

"I was fortunate enough to secure a limited amount of this antigen, and am placing a few cases under treatment. At a later date it will be my pleasure to make a preliminary report of my observations and the results obtained."

Many bizarre treatments have been devised for tuberculosis. No disease lends itself more admirably to the freaks, frauds and fakes in treatment, because of the mental element involved. Some years ago a French physician, seeking to test out the psychic factors in the treatment of tuberculosis, announced to a number of his patients that he had discovered a wonderful serum for the cure of the disease, and that he would try it out on a few of them. He made a solution of common salt, which was administered with all due attention to the well-known technique, making careful notations of the condition of each patient at the beginning of treatment and the daily changes resulting therefrom. Without exception the appetite improved, the temperature diminished, the cough, expectoration and night sweats were mitigated, and there was a gain in weight. The improvement was limited as to time and extent, of course, but there was sufficient change to have given ample room for booster testimonials, had that been the object sought. No doubt, also, but there was some permanent improvement incident to the improved psychology. The trouble with this sort of thing is that only in exceptional cases, and when the approved management is carried out, is the improvement permanent.

Recently much newspaper notoriety has been given to the assertion of a French physician, that the peculiar, penetrating odor of the male goat, has an important therapeutic value in the treatment of tuberculosis. The author of that novel treatment is quoted as asserting that one goat in a stable where other domestic animals are dying from any sort of epidemic will stop the spread of the responsible disease, and without any other treatment. Of course, if that is true, there are grounds for further study, but chances are that it is only true to the extent that coincidences will occur. The *Fort Worth Star-Telegram,* under the title, "Keep Your Goat," comments facetiously on this cure, which is about the best line of argument in such cases:

"Most older persons who were raised in the country doubtless remember the home-brewed physic which our mothers administered. Being bitter or nauseating was considered one of its strong curative qualities. A French physician, however, has now gone several steps further in practicing this kind of psychology. He made the discovery that about all that is necessary to restore health when one is ill is simply to smell of a goat until one is well.

"This remedy apparently recognizes the theory that all sickness is the result of sin, hence the process of cure should be accompanied by retributive punishment. At any rate, that would be the experience of one who constantly remained within smelling distance of a goat. While the goat might bear away one's sins—and disease—it would at the same time give one something to remember them by. The French physician finds that the aroma of a goat is an antidote for tuberculosis and other lung trouble. It is, therefore, the part of hygienic prudence not to allow anyone to get your goat."

Diphtheria Immunization Should Not Be Neglected.—The unfortunate incident of two or three years ago, when disaster followed the attempt to immunize a number of children in one of our Texas cities, should not be

allowed to stand in the way of certain prevention of diphtheria. Susceptibility to diphtheria is at its maximum in infants. Probably 90 per cent of babies would contract diphtheria if exposed. It is known that there are many carriers of this disease, and it would seem that they have had something to do with creating in these people a desire to fondle babies. The treatment essential in cases of diphtheria would seem to be undesirable, particularly in babies, when it is realized how easily it may be avoided. We are moved to these remarks by an article on the comparative merits of the new and old preparations in diphtheria toxin-antitoxin by Drs. M. C. Schroder and Wm. H. Parks, recently published in *The Journal of the A. M. A.* (October 27, 1923). The new preparation has much less toxin than the old, and is now available. We have a circular letter to that effect from one of our most reliable manufacturers. The following from the article referred to may be of special interest at this time:

"The new preparation of toxin-antitoxin, with its smaller amount of toxin, possesses a distinct advantage over the earlier preparation recommended by us, in that the local inflammatory reaction sometimes developing after an injection is less severe and less frequent. Indeed, it is almost negligible in young children and infants. The two preparations have equal immunizing value. The toxin-antitoxin mixture should not be too toxic; that is, too much underneutralized; if it is, the local reaction is disturbing. It should not be too nearly neutralized by antitoxin, for then the immunizing results are less. Safe limits as to toxicity are that 1 c.c. should not produce death in the guinea-pig in less than fifteen days on the average, and 2 c.c. should not fail to produce marked paralysis. Antitoxin is added to diphtheria toxin solely for the purpose of robbing it of its irritant action on the local tissues and thus allowing a larger dose of the modified toxin to be injected. The same result may be obtained by partially breaking down the toxin to toxoid. Unmodified fresh toxin, such as is used in the Schick test, is so irritating that only minute doses can be used. Even these minute amounts have some immunizing value. Up to the present time, the addition of antitoxin to toxin gives us the best immunizing preparation. The new preparation of toxin-antitoxin is somewhat less stable than the original preparation, but it is sufficiently stable to be used for six months after it has been properly standardized, if it is kept cool. The use of the Schick test to determine the immunizing results of the toxin-antitoxin injections should not be approved of before the end of the third month, and preferably not before the end of the fifth month. This is because the immunizing response is a gradual one and requires for its completion a different period of time in each individual. The local reaction which sometimes follows the toxin-antitoxin injections reaches its height on the first or second day, and then rapidly declines."

Plans For Our Educational Campaign are shaping up nicely. There will be some delay that had not been anticipated, but it is believed there is time at that. The Council on Legislation and Public Instruction has divided the work so that its various phases will be developed in due time and proper relationship. "'D' day" and "'H' hour" cannot be established until the amount of funds available for defraying the expenses of our lecturers and the cost of newspaper space is known. In other words, the Council must cut its suit to fit the cloth. The fund is being raised on a strictly volunteer basis, and in very modest amounts. This part of the work is in the hands of the Board of Councilors. Reports are to the effect that satisfactory progress is being made.

Perhaps it would be well to say a word in regard to the newspaper publicity at the present time planned. The idea has become prevalent that the Association is going to indulge in the sort of advertising campaign that certain of the cults have been conducting of late months, or ever the type of advertising affected by the quack, substituting, of course, fact for fiction. Such is not the case. The dignity of a learned profession would not permit such a thing. It is planned, instead, to purchase ample display space in the leading dailies of the State at the time the campaign is launched, in which to set out in clear, concise and unmistakable language, the purposes of the movement and the attitude of the medical profession towards medical and public health legislation, and medicine and the public health in their relationship to each other and to the public. Then will follow the same procedure in the lay press of the smaller communities. So far as we are informed, there is no intention of engaging in such publicity methods as may bring criticism or offending the most fastidious. On the one hand the Council is confronted with that portion of the profession which believes in progress in all things, even in the ethics of a learned profession, and that almost unlimited publicity should be made available in a movement of this sort; on the other, that portion of the profession which believes that any sort of lay press publicity is in violation of principles which should be held sacred by the medical profession. Probably the path to be pursued lies in between. We feel that the Council appreciates the need of extreme care in such matters, and that the profession may trust those who have been given charge of these matters.

The movement looking to the enforcement of the medical practice act, is separate and distinct from the educational campaign we are planning to conduct and of which we are speaking. While it is true that the State Medical Association has pledged its support and assistance in all proper efforts to enforce the Medical Practice Act, and is a party to

the recently organized Conference on the Enforcement of the Medical Practice Act, there is no connection, direct or indirect, between the two movements. We are hopeful, and no doubt it will come to pass, that when the people are informed, they will themselves see that all medical and public health laws are given due consideration, and we certainly expect, first and last, sooner or later, to see that the people understand.

Nor will we neglect our political obligations. We have long since appreciated that the time to educate a legislator as to the needs of the public in the matter of public health legislation, is before his election. We have always endeavored to do this, but in rather a haphazard way. The publicity campaign conducted in our recent legislative efforts, we feel, was largely responsible for the success attained. In like manner publicity will now come to the support of those who believe in an educated medical profession and scientific principles in public health administration. But that will not suffice for the immediate present, and the JOURNAL is prepared to lend its advertising manager, Mr. Reese, to county societies requiring his advice and counsel in this particular. Naturally, his time in such service will be limited, but it is thought that his practical knowledge of such matters will be helpful. And for fear that there will be those who criticize the State Medical Association for entering politics on a practical basis, let us say that there will be nothing done that we may be ashamed of. There is to be none of the trickery of politics, nor will there be any slush funds for political uses.

On the whole, the campaign will be conducted, publicly and privately, on a high but, we hope, practical plane.

The Fake Doctor Ring recently exposed by the St. Louis *Star*, and concerning which there has been so much publicity in the lay press, would not have prospered as it did had our state legislatures done their full duty in the making of medical practice laws. A diploma would be of no value if state licensing boards would not accept it as an evidence of educational qualifications of an applicant for license by examination. There lies the crux of the situation as it relates to the issuance of a *bona fide* license to practice medicine. That is the whole trouble. It would be a much simpler procedure, it seems to us, certainly so in Texas, to forge the state board credentials. As for that, there are doctors in Texas today practicing without any sort of credentials. It is needless to complain to the State Board of Medical Examiners, as that body has no funds with which to investigate such matters. The average district clerk probably is not familiar with the Medical Practice Act, and having determined the necessary forms and procedure will be content with any sort of data that would seem to comply with the law. The genuineness of the data is not a matter of concern to him. The fake diplomas and credentials complained of even now are acceptable only in Massachusetts, Wyoming, Connecticut and the District of Columbia.

The procedure disclosed by the *Star* appears to have been quite simple. High school credentials are forged, then a diploma from a low grade medical college is secured and an impersonator takes the examination, where an examination is required. There are variations, of course, but this is the orthodox plan. It works fine in states where there are boards for each school of medicine—or where there is more than one board. Connecticut seems to have been hardest hit of any of the states, but we have an idea that appearances are deceitful. It happens that Connecticut has a governor who is on the job, and who realizes the seriousness of the situation. It is said that some 30,000 of these bogus diplomas have been sold, and that they are being used in this and surrounding countries, and even in government service. The United States Public Health Service has started an investigation to find out whether there are any such licentiates on its rolls. Even Mexico and South America are complaining. The Connecticut governor has grown quite indignant over the situation, and in the midst of his restrictions of all and sundry, included the medical profession in the following words:

"I blame the doctors of Connecticut for not exercising a better guardianship over the members of their profession. They should have known that these charlatans were preying on the community. Their opportunities of observation necessarily are better than a layman's. I was astounded that only one doctor out of the whole Connecticut medical profession should oppose a bill which would have given the State's highest sanction to a group of imposters."

The governor speaks the truth, but he overlooks the fact that a doctor would be taking his professional life in his hands when he made charges of this sort. Formerly, and by law, the Medical Society of New York attended to all such little matters as these, and had to desist and by law secure relief, because of the untempered and universal criticism and ridicule laid upon the profession of that state. We know what has happened to us in Texas when we merely said to the Legislature that quacks and medical incompetents were preying upon our people, and asked for relief.

A clipping from the lay press, which we are not able to identify at this time, under the caption, "Fake Doctors," editorially refers to the situation in the following words:

"At least 25,000 bogus physicians and surgeons are 'practicing medicine' in the United States, according to some investigators of medical diploma mills.

"The figure is startling. Here's a major evil going along for years without the public suspecting it. Fortunately, it's a scandal that can be cleaned up quickly and thoroughly—if the proper authorities so desire.

"No matter how thoroughly it may be suppressed, however, this evil will grow up again like a weed unless the various associations of legitimate physicians and surgeons act more vigilantly as watchdogs. We believe the Hippocratic oath ethically requires such watchfulness.

"It amazes you to find the medical profession honeycombed with untrained quacks. Do you stop to realize that every other line of human activity is similarly honeycombed with incompetents? Yes, and just as harmful to the community at large as the phoney M. D. to his unfortunate victims.

"Lawyers, judges, architects, newspapermen, financiers, craftsmen—there are plenty of these who are thoroughly trained yet totally unfitted for their work by reason of warped ethics, natural incompetence, stupidity and dishonesty.

"In life, real ability stands out in the sea of incompetence like the proverbial blackberry in a bowl of milk.

Any one with a sense of decency is appalled by the thought of an ignorant, untrained quack 'treating' sick people who need expert help. The fact that thousands of such quacks are at work, is a revelation of the frightful things many men resort to in the mad scramble for money. There seems to be no limit to degredation, where money is at stake. Civilization is a wretched failure—financially."

The editor here speaks the truth when he states that the scandal can be cleaned up quickly and thoroughly—*if the proper authorities so desire* (italics ours). The trouble is, the proper authorities will not bother about the matter unless public opinion requires it, and public opinion has to be boosted considerably before such a condition arises. The assumption, however, that it is the burden of the medical profession to prevent the recurrences of such a thing by virtue of the Hippocratic oath, is without warrant. It is true that the medical profession has assumed an obligation of this sort, and have endeavored earnestly and honestly to protect its people against quackery, only to be denied assistance when assistance is asked for, and criticised when protective legislation is suggested, the opinion generally prevailing that there is a selfish motive at the bottom of its activities. The editor is eminently correct in his characterization of the untrained quack who would treat the sick. Of all the crimes against decency and manhood, it would seem that this is about the worst. To jump on a man when he is down is an angelic act in comparison. The helplessness of invalidism has always appealed to the strong, and even the savage will respect the plight of the sick. Even the buzzard will not bother the sick—he waits until death puts a stop to misery. Truly, the medical profession knows the story of the quack, and it is ready to tell it; but the medical profession cannot be expected to continue to voluntarily submit itself to criticism of the unkindest sort in protection of a people who give tolerance and protection to those who would exploit them. Aesop tells a story about a kind-hearted man who warmed a frozen snake back to life. It is a fable, and there is a moral.

Who is Practicing Medicine in Texas Without a License?—The State Board of Medical Examiners wants to know. Following the request of the Conference on Enforcement of the Medical Practice Act, organized at Dallas in October, to which we have already made editorial reference, the State Board of Medical Examiners has authorized its president and secretary to urge upon the courts that prosecutions be had in appropriate cases. The Board now desires to know who is offending against this law, and has appealed to the medical profession of Texas to produce the necessary information. Data of this sort should be referred at once to grand juries throughout the State, with the plea that prosecution be in accordance with facts developed upon investigation. It will be understood that the medical profession, as represented by the several state organizations of the so-called schools of medicine in the State, including our own Association, has offered to help in enforcing this law when called upon, and it now seems that our assistance has been requested.

The recent exposure of the traffic in fake diplomas makes this movement of particular importance just now. If our district clerks have carried out their part of the medical practice act, the diplomas and credentials referred to are of no consequence so far as Texas is concerned; but there is no assurance that this has been done. No one is authorized to practice medicine in Texas without a license from the State Board of Medical Examiners, and the State Board of Medical Examiners will not issue license to graduates from low-grade schools from which the diploma under criticism have come. But there is the possibility that State Board licenses have been forged, and it is possible that district clerks have accepted for record diplomas and certificates from other states. It would be well for county medical societies to see that the records are searched and any discrepancies found brought to the attention of the proper authorities.

It should be understood, of course, that any movement of this sort has for its object the prevention of the practice of medicine by unauthorized persons, and is not directed against any group, cult or sect. While prob-

ably more chiropractors than any other group are practicing without a license, it cannot be said that all of them are, and the movement is, of course, not directed at them. Some chiropractors have concluded that it is their goat that is under fire, which is only partly true—to the extent that their goat is not licensed. They have been duly grateful for the diverting influence of the fake diploma ring scandal, and at least one of these has confused the campaign for the enforcement of the medical practice act with the educational campaign that the medical profession of Texas proposes to institute in the near future, as witness the following letter received through the mails a few days ago, which we publish verbatim:

"Dear Mr tailor: I have read with grate interest, yure criticism of my profession in the Texas Med (Should be Medling) journal, and I must say that the fellow that designed the picture riduculing us Chiropractors and placing us under the sign of a "Belleypractor, faithfako etc is all right but he shud hav put the m d s sine in the pitcure two.

"I have been reading the newspapers with great delight and have noted the disclosures of the Medical fakes, and I am happy to note that the medical men have already wreaked their own destruction as far as the faith of the public are concurned by aiding in giving their fake comrades publicity by exposes etc but the damage is done and we the chiropractors can laugh. The public are in the belief that all M.D are fakes and you fellow have helped put it over by helping expose them. If your Diploma happens to be from missury you had better pack it up and put it away Mr Taylor becuz the first pashunt that sees it, will walk right over to the chiropractor next door. Ha. Ha.

"The big publicity kampane (paid) that will be started by the pilrollers on the first of the year, to eliminate the black sheap frum the tribe is just what we want, and sinece I realize it is now to late for you to stop exposing the fake M. D.'s and quacks, etc, I want to thank you for your kind co-operation if not intendud. The hotter you make it for yure brother pilrollers who have strayed frum the path of rightshusness the better keep up the good work. Us chiropractors stand ready at all times to give our professional expert advice at a trial, although we feel it would be unethical to our profession to openly make any charges aganst any M. D. as this would seem to be prejudice or persecution on our part."

Papers for the Scientific Program Are Called For.—Those who are interested should speak up or take chances on being required to forever afterward hold their peace. The officers of scientific sections have conferred with the committee on scientific work, and the results of their deliberations are important. If the decisions arrived at are carried out, there can be no doubt but our scientific program will be vastly improved. That there will be antagonism, and embarrassments, is reasonably certain. Innovations usually meet with criticism, no matter how well thought out and how necessary they may be. Section officers realize this, but backed by the committee on scientific work they feel assured of the commendation of the great bulk of our members and are determined to go ahead. According to the by-laws of the Association, the committee on scientific work has no direct connection with or supervision over scientific sections, but the inference is clear that this committee has advisory jurisdiction. Those who are familiar with the transactions of the House of Delegates of the State Association at Fort Worth last May, will recall that the matter of giving this committee some sort of supervision over the scientific sections, was given considerable study and the whole problem was referred to the committee on revision of the constitution and by-laws for action. That a combination of interests will be effected, there is little doubt. Section officers and the scientific committee are, in the action above referred to, merely forestalling the new state of affairs. The principal decisions referred to are as follows:

1. Papers for the several sections shall be limited approximately as follows:

Section on Medicine and Diseases of Children, 25.
Section on Surgery, 25.
Section on Ophthalmology, Otology, Rhinology and Laryngology, 20.
Section on State Medicine and Public Hygiene, 20.
Section on Gynecology and Obstetrics, 18.

2. Each section shall have a paper on Cancer, to be contributed on invitation of the section officers.

3. Section 4, Chapter X, of the By-Laws shall be rigidly enforced. This section reads as follows:

"All addresses and papers coming before the scientific sections shall be presented in typewritten manuscript. All papers so presented by members of the Association must first have been read before the county society, or where the county society is not available, the district society of which the author is a member, and the secretary of such society shall certify to the section secretary that such paper has been read in toto.

4. Prospective contributors will be required to submit preliminary drafts of their respective papers, in duplicate, to the secretaries of proper sections.

5. The program will be closed March 15. Papers will be only tentatively accepted before that time. Papers finally accepted for the program will be returned for finishing touches. Papers not accepted will also be returned, and without prejudice. They will not be used because they do not fit into the program, are duplicates of papers having priority because of date of submission, or are not desirable for any number of reasons not reflecting on the character of the papers themselves.

6. Secretaries of county and district societies are expected to co-operate with officers of scientific sections in securing offers for the several programs. Papers of special value read before these organizations should be placed at the disposal of the proper section.

The list of section officers is republished herewith for the immediate convenience of our readers:

Section on Medicine and Diseases of Children.—

Chairman, Dr. Joe E. Dildy, Brownwood; Secretary, Dr. Jas. H. Agnew, Houston.

Section on Surgery.—Chairman, Dr. M. P. McElhannon, Belton; Secretary, Dr. H. L. D. Kirkham, Houston.

Section on State Medicine and Public Hygiene—Chairman, Dr. A. L. Lincecum, Dallas; Secretary, Dr. H. L. Wilder, Clarendon.

Section on Gynecology and Obstetrics.—Chairman, Dr. Everett F. Jones, Wichita Falls; Secretary, Dr. C. C. Cade, San Antonio.

Section on Ophthalmology, Otology, Rhinology and Laryngology.—Chairman, Dr. W. D. Jones, Dallas; Secretary, Dr. Chas. P. Schenck, Fort Worth.

The Annual Meetings of County Societies are due to be held during the month of December. It is at this time that officers are elected for the forthcoming year. The officer personnel of county societies has to do with the destiny of the medical profession of Texas. It generally happens that inactive county societies are offset and compensated for by active societies, and that first and last extremes will meet and peculiar views balance each other, but the conservative, enterprising members of the profession in each community owe it to their profession to take an interest in the affairs of their respective societies, and first of all things to help in electing the right sort of officers.

Perhaps the first consideration is to see that the secretary is of the right type and will attend to his duties. There are some who will never make good secretaries, no matter what their good intentions may be, because they are not built that way; there are those who will not do because they are too lazy to work, and still others undesirable because they are perniciously active, continuously stirring the brethren to strife among themselves. Generally, some one of even the smallest of groups is fitted for secretarial work and will be willing to assume the duties if he can be assured of the sympathetic understanding and the help of the other members. He is the man to get, but it will not do to guess at it and elect at random. Somebody has to think the matter out.

It would surprise our readers to know that there are secretaries who will hardly answer the most urgent communications, and still others who will not remember to comply with official requests made of them, notwithstanding their intentions are of the best. We are not complaining. These are few in number and far between, but there need not be such a thing as a poor secretary.

The president of the society, as the head of the profession in the county, is an important individual. He should be chosen because he fills the bill, and not because he is popular or somebody wants to pay a debt of gratitude.

Delegates to the State Medical Association cannot be too carefully selected. Political accomplishments are an asset, but there should be every assurance that delegates will not indulge in political pursuits within the Association, at the expense of the best interests of the Association. They should be inclined to legislative deliberations, and should have the interests of the Association intimately at heart. The annual meetings usually are, and they should be, the most generally attended of any meeting of the year.

The Washington Meeting of the Southern Medical Association lived up to the promises made for it. The attendance was in excess of 1,600 physicians, and counting the families of physicians the registration was nearly 2,500, all of which was not bad, considering the fact that Washington is on the northern boundary of the territory of the Association. There were 64 registrants from Texas, which was also not bad, considering the distance from common points in Texas to the place of meeting.

The character of the scientific program and the attendance on the meetings of the scientific sections, were gratifying. The commercial exhibits were, as usual, interesting and profitable. The scientific exhibits were not so extensive as heretofore, although one or two of them were of particular interest. The entertainment features were all that could be expected, and more than could be utilized to advantage, considering the crowded condition of the program otherwise. Quite pleasant was the cordial reception extended by President Coolidge at the White House. The Association had by formal resolution excused the President from the usual handshaking ordeal, and a brief speech was substituted therefor. In his talk the President took occasion to express appreciation of the services rendered in the past by physicians, and urged that the high ideals and ethics of the profession be maintained through all time to come.

Dr. Chas. L. Minor of Asheville, N. C., a former president of the National Tuberculosis Association, was elected President. Drs. Robert C. Lynch of New Orleans, and Thomas A. Groover of Washington, D. C., were elected Vice-Presidents. Mr. C. P. Loranz and Dr. M. Y. Dabney of Birmingham, were re-elected Secretary-Manager and Editor, respectively. The next meeting will be held in New Orleans, in November, 1924.

The American Peace Award.—Our readers will recall the $100,000 prize offered by Mr. Edward W. Bok, formerly editor of *The Ladies Home Journal*, for the "best practicable plan by which the United States may

co-operate with other nations to achieve and preserve the peace of the world." This contest closed November 15, with 22,165 plans on file. The jury of award consists of the following: Elihu Root, Chairman; General James Guthrie Harbord, Colonel Edward M. House, Ellen F. Pendleton, Roscoe Pound, William Allen White and Brand Whitlock. The plan decided upon will be announced in detail January 1, and it is the intention of those behind the movement to secure the unbiased and free opinion of at least the thoughtful people of our country as to whether or not it is acceptable *in substance*. There is no intention of securing a popular vote on whether or not war should be stopped, whether by the plan adopted or any other plan. The feasibility of the idea or ideas involved in the plan, whether or not modified or howsoever worked out, is the question that will be placed before us. It is hoped by securing the opinions of a great variety of thinking people the end sought will eventually be attained.

We have decided to co-operate in this movement, and will publish at least a synopsis of the plan decided upon, and a blank ballot, to be used in voting, in the January JOURNAL. This is merely a preliminary notice, calling the attention of our members to the movement and urging that they carefully study the plan in detail, as published in the larger dailies and the magazines, and then cast their votes, whether upon the ballots provided by us or ballots secured from other sources. We feel that no class of our citizenship is better qualified to pass on such problems, and certainly none are more interested in perpetuating honorable peace. When war comes the medical profession, to be extremely modest about it, shoulders its full share of responsibilities and suffers its full share of deprivation and personal destruction. This fact constitutes an obligation in connection with all sensible and seasonable efforts of this sort.

Cheap Drugs.—A reading notice sent us by one of our esteemed advertisers, a manufacturer of drugs, calls attention to the new spirit in his field, which we desire to comment on briefly, but none the less appreciatively. Many of our olders readers will recall the day when there were just two kinds of drugs, those mentioned in the Pharmacopœia and the National Formulary, and patent medicines. Those of the Pharmacopœia were required to be of a certain quality, and there was perhaps not so much opportunity for fraud in either manufacture or distribution, as there later came to be. Physicians dispensed their own drugs, and the price was an important item, and one in which there was considerable variation, very largely because of the differences in transportation and distribution facilities. At that time price competition was keen, and justifiable. Later came the day of the so-called ethical proprietary, when the doctor had no way of telling what was in the preparations he bought. There was then, of course, little opportunity for price-cutting, except in the official preparations. The extensive expansion of the drug manufacturing business soon gave rise to so many opportunities for minor variations in the quality of drugs that there was again great opportunity in the manipulation of quality, and hence, price. A shade of difference in the chemical composition of one of the newer drugs, particularly, might make a vast difference in the cost of production. In this particular lay the harm of price-cutting. As in the case of whiskey (whether or not for medicinal use), it has been rather difficult to judge as to the quality of many of the most frequently used drugs.

Not to go further into the subject, we are pleased to believe Mr. Charles Wesley Dunn, counsel for a number of large manufacturers of America, that we are now approaching the time when the real competition between drug manufacturers will be in the quality of their merchandise and the character of service rendered, and not in the price. We do not advocate a combination of drug manufacturers whereby the price may be maintained at any one particular point, for the reason that we have an idea that the point maintained would be rather high, as was the case with German-made drugs before the war. But we are in favor of the manufacturer establishing a fair price for his product and then saying to the physician that he will give the best that can be given when his preparations are specified. Barring a few cut-throat manufacturers of drugs, proprietary and patent (that we may be comprehensive in our statement), we are sure our manufacturers must inevitably come to that point, in answer to the inherent sense of fairness of the American people.

A case of chronic pulmonary tuberculosis is cited by Joseph Rosenblatt, Wallum Lake, R. I. (*Journal A. M. A.*, July 21, 1923), in which there was metastatic involvement of most of the ribs, the left clavicle, the frontal bone and the thyroid cartilage. The recent literature did not disclose any record of a similar case. One of the most unusual features of this case is the spontaneous fracture of the clavicle. Tuberculosis is hardly ever mentioned as a cause of spontaneous fractures. In this case, however, the involved bones were rarefied and brittle without any gross evidence of new bone formation. It is not surprising, therefore, that the weight of the arm and muscular action were sufficient to break the diseased clavicle.

ORIGINAL ARTICLES

DIAGNOSIS OF EARLY CLINICAL TUBERCULOSIS.*

BY

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Diagnosis is by far the most important consideration in the general subject of pulmonary tuberculosis. In no disease is the early diagnosis of more surpassing moment. It is scarcely conceivable that any uncertainty could exist in the recognition of moderately advanced phthisis, for the history, subjective symptoms and physical signs, present a clinical picture so typical as almost to preclude the possibility of error. The incipient cases present the only reasonable difficulty in the way of accurate diagnosis, and it is in precisely this class that early recognition is of the utmost consequence.

Consumption has been shown to be a distinctly curable disease, in the sense of its permanent arrest. Early cases of tuberculosis are of vastly greater importance than advanced cases, by virtue of the most favorable ultimate prognosis and the avoidance of an indefinite period of invalidism. The majority of consumptives with slight involvement may justly anticipate an arrest of the disease, and a more or less complete restoration of former health and vigor. It is, indeed, lamentable that thousands of lives are sacrificed each year on account of tardy recognition of tuberculosis and deferred treatment. It is charitable to believe that this has been occasioned through inability to appreciate the significant, rational symptoms; to recognize accurately the physical signs, and to interpret properly their import. Of importance, also, is failure to elicit the essential historic facts, to emphasize in group, rational subjective symptoms and to observe correct methods in physical exploration.

Perfect accuracy of diagnosis may be established by the recognition of the tubercle bacilli, but not always before the destructive process has become advanced and the constitutional disturbance pronounced. The physical signs occasionally furnish undoubted evidence of a recent active infection long before the bacilli appear in the sputum. In other cases the history and subjective symptoms afford provisional, if not conclusive evidence of a latent, concealed lesion, despite the absence of bacilli and well defined physical signs.

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 8, 1923.

Early diagnosis is a matter of great simplicity when the bacilli are demonstrable, but their presence in sputum is dependent upon caseation of the tuberculous area, and their evacuation by the way of a small bronchus. Therefore, early diagnosis by this method alone is not an early diagnosis of early clinical tuberculosis.

There is no stereotyped way of making a diagnosis. Diagnosis is not always based upon the same conditions. It is not based upon data derived from any particular procedure, but it is an opinion formed after all available data has been obtained and analyzed. He who attempts to find the same symptoms or the same principal signs in every instance before making a diagnosis, fails to grasp the nature of the process which he is attempting to discover. The patient suffering from early clinical tuberculosis usually shows only a few of the many symptoms which are found accompanying this condition, and these may not be constant. They are present for a time and then disappear, giving the patient the idea that they are gone. Variability is necessarily a characteristic of the symptoms of this disease. The diagnosis requires time for examination, skill in obtaining the proper data, and keen judgment in weighing the data when obtained.

In the practice of medicine we must often resort to the deductive method of reasoning when attempting to unravel an obscure case, but in our attempts to ascertain the presence of active phthisis we are on safer ground when we apply the inductive method. We must first ascertain the individual symptoms and credit each with its true merit. In other words, all the morbid phenomena must be accurately observed. All the material facts are to be carefully inquired into and, what is of more importance, the interpretation of collective facts must be correct and in agreement as regards their relation to one another and the probable causes which may underlie the process. To do this rationally, we must carefully observe the appearance of the patient, going into great detail about the symptoms which urged him to seek medical advice, and also inquire into such subjective symptoms as the average patient is not likely to mention unless his attention is drawn to them.

History taking in these cases is of paramount value. We are to find out the condition of health or cause of death of the patient's parents or grandparents, if he is in possession of the facts or is capable of giving them to us reliably. Of particular importance is a knowledge as to whether either of the parents was actively tuberculous during the patient's infancy or early childhood. In case

the parents became actively tuberculous after the patient passed childhood, his chances of becoming tuberculous are no greater than are those who did not have such heredity.

We should not be influenced by the age of the patient. No age is immune to the disease; each period has its own form of the disease. In infants, general tuberculosis is the rule; in children, it is tuberculosis of the glands, especially those of the tracheo-bronchial group, the bones and joints; in adults, we find chronic pulmonary tuberculosis; in persons over forty we expect fibroid phthisis, and in aged individuals the disease assumes a very chronic form, with a symptomatology peculiarly its own.

The occupation of the patient has great influence on the development of active tuberculosis, and should be considered when taking the history. A history of an injury to the chest, especially followed by hemoptysis, is important.

Pre-existing diseases are to be studied in detail. In infants and children, active disease is apt to follow in the wake of one of the endemic contagious diseases, especially if there have been complications of broncho-pneumonia. In adults, typhoid, pneumonia, pleurisy, diabetis, syphilis, etc., are of etiological moment. The most outstanding landmarks to be looked for are the following: Fistula, idiopathic pleurisy, pneumonia, bronchopneumonia, hemoptysis, and as we have all noted in the past two years, we must give some consideration to influenza.

It is not strange that we find so many cases of pulmonary tuberculosis following the epidemic of 1917 and 1918, when we consider the great damage done the lung by bronchopneumonia, which so often accompanied this disease as a complication. Uncomplicated lobar pneumonia seldom leaves a mark in the affected lobe, while bronchopneumonia seldom, if ever, leaves the lung as it was before. It is safe, therefore, to say that bronchopneumonia, or any disease which is complicated by bronchopneumonia, is the greatest causative factor in the production of active pulmonary tuberculosis.

The history of exposure to infection should not be overestimated in adults, as has been advised by many writers. Those most exposed to infection, as sanatorium staffs, doctors, nurses and orderlies, are not more liable to become tuberculous than those in other walks of life who do not come into intimate contact with consumptives; nor do the unaffected consorts of tuberculous patients suffer from the disease more than others. It is absurd to expect that association with a tuberculous fellow workman is more likely to result in infection. It is different with children, especially with infants. Infants of tuberculous parents, or who have otherwise been exposed to the infection, are likely to contract the disease in an active form.

In women, menstrual history is to be gone into and special attention paid to amenorrhea. It is also to be borne in mind that active symptoms very often appear immediately after childbirth.

Of immense importance is the history of the onset of the present ailment. We should inquire into the symptoms with special reference to cough, expectoration, lassitude, languor—particularly in the afternoon, loss of weight, hemoptysis, pleuritic pains, pleurisy—with or without effusion, etc. Of most importance in ascertaining the presence of the disease, in its active form, is fever with its concomitant symptoms, chills, backache, anorexia, tachycardia, etc. Night sweats are to be inquired into; it should be ascertained whether they occur immediately upon going to bed or wake the patient during the night. The state of appetite is to be ascertained, particularly whether there has been any loss of appetite. If the patient knows, he should tell the fluctuations in his weight for the past several years. It is also well to know what other symptoms have been noticeable during the past. Many patients will give histories of being treated for months for neurasthenia, gastritis, chlorosis or even malaria.

The importance of fever is greater than that of any of the subjective symptoms during the early stages of the disease, while its absence constitutes no argument against a positive diagnosis; its presence under certain conditions is assuredly a feature of diagnostic value. Statements of patients regarding the existence of fever, are quite frequently unreliable. Nothing is more certain regarding the fever of phthisis than its extreme irregularity, not only as to the hour, but day as well. The patient or some member of his family, or what is better, a nurse, should take and keep a careful record of the temperature for a week or more, so that the physician will have accurate data from which to draw conclusions.

There is often no characteristic change in the pulse during the incipient stage of the disease, it being apparently normal in very many cases; however, changes do occur, and even before the demonstrable bacillary stage. The pulse is often of low tension—weak, irritable or rapid. Tachycardia, from unknown cause, is particularly suggestive of tuberculosis. The pulse is subject to considerable variation as a result of comparatively trifling conditions, such as slight exertion, animated conversation, or other causes of nervousness. A factor of some importance is the irritability

and acceleration of the pulse upon change of position, when at rest it may appear to be normal.

There are a few symptoms of reflex origin which it may be well to mention. They are a result of peripheral stimulation of the pulmonary ends of both the vagus and sympathetic nerves. The peculiar characteristic of symptoms due to reflex action, is that they all point away from the lungs. Hoarseness, tickling in the larynx and cough, point to the larynx as the point of the trouble. The instability of the heart action sometimes points to the heart. The gastrointestinal disturbances call attention to the stomach and intestinal tract, while pains are very apt to be considered as rheumatic or neuralgic. Thus it can be seen that early tuberculosis may masquerade as an infection of any of the great systems of the body.

It must always be remembered that there is no active phthisis without some constitutional disturbance, and that there is no single symptom that is pathognomonic of the disease, excepting the expectoration of sputum containing tubercle bacilli. It is only the combination of various symptoms and signs which clinches the diagnosis, especially in obscure cases with negative sputum.

The diagnosis of early tuberculosis depends on little things. The symptoms for the most part are not severe and would be considered unimportant if they were not attributable to so serious a disease. The changes in physical signs are often so slight that they are only appreciable upon careful, painstaking observation. This makes it essential that the conditions under which the examination is made should be as favorable as possible.

In the examination of a patient many things must be considered. The examination should be made in a warm room, so that the patient will be comfortable and relaxed. The difference between examining through relaxed and rigid tissues must be considered. Nervousness on the part of the patient should be quieted if possible. The patient must be stripped to the waist. The waist must be free to allow the unobstructed movement of the diaphragm. Whenever possible, the patient should be examined in a sitting position. There is a difference in the percussion note when the patient is sitting. The auscultatory sounds also differ with position. Each examiner should develop for himself a certain routine, which should include complete investigation of the appearance of the patient as a whole, and the chest in particular. It must be remembered that many patients suffering from early clinical tuberculosis are of robust build, who have been working hard and doing their work easily, and who show none of the usual stigmata. In many of the early cases we will find the flat chest, a lagging, either regional or general. We will note in many cases changes in the state of muscles and subcutaneous tissues, and especially significant is the change of the contour of that portion of the trapezius muscle formed by the junction of the upper with the middle portion.

By palpation we are not only able to determine the difference of fremitus, but the condition of the muscles, increased resistance resulting from intrapulmonary infiltration, the presence or absence of lagging—from which we infer either that the muscles of respiration, particularly the diaphragm, are reflexly interfered with, or are normal in their actions. We can also detect by palpation the presence of large lymphatic glands.

The percussion findings in early tuberculosis vary greatly in different individuals. They are modified by the nature of the infiltration, the condition of the lung tissue and surrounding structures, the elasticity of the bony thorax, the amount of soft tissue and the condition of the muscles.

The most important thing in the examination of the patient, is auscultation. It is likewise much abused. Prior to the World War, few physicians had sufficient training or experience to enable them to make a diagnosis of incipient tuberculosis from the data derived from auscultation, before the advent of gross signs. Unfortunately, the difficulties surrounding auscultation are not sufficiently recognized, and physicians examining chests and finding nothing which they recognize as abnormal, usually give opinions accordingly, even in the face of definite symptoms of disease. One of the difficulties of auscultation is the stethoscopes. I feel that it would be wise if all were taught to use the same kind of stethoscopes. It was found by those physicians in the army who were members of the tuberculosis examining boards, that they could easily adapt themselves to the use of the Ford stethoscope, which, in my opinion, is the most practical type of instrument.

In auscultation, the patient must first be instructed how to breathe. We find that we get better results by having the patient breathe a little deeper and faster than normal. Forced respiration, however, should not be employed at first, for this disturbs the rhythm of the respiratory note. The breath sounds should be free from adventitious sounds produced in the nose and larynx. I find it most satisfactory to have the mouth slightly open. The patient should be examined while breathing quietly, then during deep inspiration, then a short cough and

again inspiration. This is particularly necessary in examining for rales. Often a deep inspiration will disclose rales when a shallow inspiration will not; and a cough followed by inspiration will show rales when both shallow and deep inspiration fail. No physcial examination for tuberculosis, and particularly early clinical tuberculosis, should be considered complete without auscultation during deep breathing and cough, followed by inspiration.

There is no definite change in the respiratory note always present in early tuberculosis. If there were, it would be a comparatively easy matter to make early diagnosis on stethoscopic findings. There is also a confusion of terms, one examiner calling a given sound harsh, another calling it rough. Without going into detail as to the reasons for roughened breathing, or cogwheel breathing, I will proceed to lay greater stress on rales, especially those commonly termed latent, which, when they persist after several examinations, are diagnostic of pulmonary tuberculosis.

The method of eliciting latent rales so universally used in sanatoria, and in the Medical Department of the Army, should be adopted by every practitioner who auscultates the chest to ascertain the lung condition. It is not always easy to get a patient to exhale, cough and inhale in the proper manner. Frequently with a nervous patient the examiner will be obliged to explain in very simple language and with great patience, the detail of the procedure he wishes the patient to follow; the examiner himself will demonstrate by inhaling, coughing and exhaling, while the patient watches him, so he will understand thoroughly just what is wanted and is expected.

There are other aids in the diagnosis of early clinical tuberculosis, such as the tuberculine reaction, which is, in my opinion, of value only in the first few years of life. Laboratory examinations of the sputum should be a routine measure, but negative findings should not influence us. The *x*-ray may be of value in some cases of early clinical tuberculosis, but necessarily the deposits in the lungs must be spread over sufficient area to cast the characteristic shadows. Fluoroscopic examinations may also be of value in affording opportunity to denote the delayed or diminished descent of the diaphragm; also, in noting the lighting up of the apices on deep inspiration. In my opinion, it should be a routine procedure, to examine the lungs by the fluoroscope and the *x*-ray.

In summing up the data collected for an early diagnosis, there are two outstanding facts: First, there can be no active tuberculosis without one or more suggestive symptoms—for which reason we must observe and study the symptoms of our patients minutely and over sufficient length of time; second, just as subjective symptoms are important in the history taking, so also is auscultation in physical examination, and especially while the patient exhales, coughs and inhales.

ABSTRACT OF DISCUSSION.

Dr. S. E. Thompson, Kerrville: In this paper there are three points which are of supreme importance to both the doctor and the patient.

First, in early pulmonary tuberculosis, if by this we mean the formation of the original tubercle, there are no physical signs. The pathological process is too small to produce physical signs. Certainly there are no rales, even after cough and the respiratory murmur is not changed. At this stage of the disease, a chest examination reveals little or nothing. If the patient is robust and the chest walls are heavy, everything appears normal. In the same condition, this is equally true with the *x*-ray. There are no shadows or streaks before the density caused by the tuberculous area and the engorgement of the surrounding blood vessels are sufficient to interfere with the passage of the rays of light.

Second, the first symptoms of tuberculosis, as a rule, are toxic in character, general in their expression and not referable to the chest. Except in cases where the first symptoms come as a hemorrhage or pleurisy, there is nothing local to bring the chest under suspicion. The patient complains of undue fatigue without sufficient exertion to produce it. He is nervous. The appetite is without edge. The pulse is elevated. The temperature is sub-normal in the early morning and above normal in the afternoon. Symptoms with or without physical signs, need treatment. Physical signs without symptoms need to be watched.

Third, do not be in a hurry to make a diagnosis or to give an opinion. To do this is unfair both to you and to your patient. Take all the time you need to assemble the facts and to form your opinion. If you need two weeks, take it—and more if necessary. Frequently, at our sanatorium, we withhold our opinion for thirty and even sixty days. You can always take your time in these early and border line cases, and the patient will respect and admire you for it.

Dr. Alvis E. Greer, Houston: In my opinion the immensity of the subject is not excelled by any other diagnostic problem in all the realm of medicine. MacKenzie has pointed out to us that the first stage of a disease is not discernible by any physical signs, and symptoms always precede the signs. By the time pulmonary tuberculosis has caused structural changes in the lung tissues sufficient to produce gross changes, discernible to the senses of the clinical examiner, we may be certain that the disease process has advanced considerably. Therefore, it is well for us to consider the patient's symptoms closely, because only in the proper interpretation of subjective complaints and by broad judgment, may we diagnose disease in its incipiency.

Although the value of the symptom of fever in early clinical tuberculosis is granted by all of us, there seems to be a tendency toward carelessness in the determination of its presence, so much so that the findings are often worthless. The normal temperature, at rest, varies from 97.2° to 99.2° F. (rectal). The mouth temperature is at least .5° lower, thus giving a normal range of from 96.7° to 99° F. These normal variations are modified by exercise, climate, bathing, eating and menstruation.

In exceedingly nervous people, we find considerable mobility of the temperature range. It is, therefore, common to find in normal people a temperature range of 1° F. to 1.5° F. After exercise in a cold wind or after eating, the mouth temperature is very unreliable.

A two-hour chart for at least a week is essential for early diagnosis, because in early tuberculosis the fever may be present for a short time only. A four-hour chart will often miss the fever. And since early phthisis may be afebrile, it is necessary at times to continue observation for weeks. A practical method, when it is impossible to use the two-hour program, is to make a two-hourly determination for two days. In that way the time of fever may be found and, thereafter, a four-hour determination may be charted, fixing the previously determined fever rise in the four-hour scale.

The fever of tuberculosis is characteristically unstable; slight causes will precipitate a rise, even reading or worry. But the most outstanding feature is its excessive fluctuation, from a subnormal morning temperature of 96.5°, accompanied by a slight evening rise to perhaps 99.5°—a variation of almost three degrees. With this is an acceleration of the pulse, greatly out of proportion to the fever.

It is of value to watch the effect of exercise on these patients, but we must remember that exercise will elevate the temperature in a normal individual. It has been demonstrated that a two-mile walk in one hour, will cause an elevation of 1° F., and a six-mile walk in one hour will increase the temperature by 4° F. It is probable that light exercise will not elevate the temperature above 100° F. in normal people. A good plan is to use a control of a normal person, subjecting the two to identically the same tests. It will be found that usually in the tuberculous patient the rise will be double that found in the normal control.

In my opinion, a careful study of the temperature range, bearing in mind its mobility and fluctuations, and the pulse acceleration, and observation of the effect of exercise upon the temperature, are of great value in the diagnosis of clinical pulmonary tuberculosis.

Dr. I. S. Kahn, San Antonio: While it is perfectly true that it is incumbent upon us to make our diagnoses of tuberculosis early, I feel we are going too far in making a diagnosis of clinical tuberculosis on persistent afternoon temperatures, rapid pulse and weight loss, where confirmatory physical and *x*-ray findings are absent. Not only is there economic loss produced by prolonged tuberculosis treatment, but such diseases as goiter, sinusitis, constipation, chronic abdominal and pelvic conditions, produce identical symptoms, and such patients are deprived of the correct treatment of their real pathology that is their due. Clinical tuberculosis without physical and *x*-ray signs, does not exist.

Since the great 1918 influenza pandemic, many cases of bronchitis and sinusitis have had incorrect diagnoses of tuberculosis. Up to 1919 nearly one-half of the cases admitted for observation to army tuberculosis hospitals were found not to be tuberculous.

Were cases treated for tuberculosis merely on account of symptoms, too many errors would be made and too many unnecessary sanatorium treatments instituted. Such cases could easily be considered as presumptive or possible tuberculosis during a period of observation without having a definite, positive diagnosis fastened upon them.

Dr. Hendricks (closing): The things I wish to emphasize are, the history and symptoms, remembering there can be no clinical tuberculosis without one or more symptoms present. We must not confound early tuberculosis in the microscopic sense of the word with early clinical tuberculosis. The diagnosis of early tuberculosis is impossible, while the diagnosis of early clinical tuberculosis is possible and necessary if the patient is to get a square deal. I will name again the outstanding landmarks that are of great value in the history of these cases: Idiopathic pleurisy with or without effusion; ischio-rectal abscess; blood spitting; pneumonia; broncho-pneumonia, and injuries to the chest.

THE RELATION OF TRAUMA TO PULMONARY TUBERCULOSIS.*

BY

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It is generally admitted that trauma frequently precedes tuberculous lesions of the bones and joints. The relation of pulmonary tuberculosis to some preceding injury has received comparatively little attention, especially in this country. French writers have gone into the matter more exhaustively than any others, and German medical men seem also to have considered it to some extent. This is probably due to the fact that in these countries laws regarding employer's liability and workingmen's compensation, were enacted a number of years before similar legislation was attempted in the United States, for it is in matters relating to compensation for injury and industrial disability that the possibility of pulmonary tuberculosis following traumatic injury, is most likely to be brought up. It is not at all difficult to find records of cases where phthisis has developed following trauma to the chest, in individuals who had never displayed any clinical evidence of tuberculosis, pulmonary or otherwise.

Years ago it was generally supposed that a great number of conditions involving the chest were likely to "run into consumption," but our present knowledge of the tubercle bacillus and its development and life history, forbids us to harbor these ancient notions of etiology. Thus the possible relation between antecedent trauma and the development of an active tuberculous process in the lungs, must be either (1) because the damage to the lungs resulting from the accident created a condition favorable to the propagation of the tubercle bacillus, so that an outside infection was able to gain a foothold, or (2) the patient already had a latent focus in the lungs, and the disturbance caused by the trauma was sufficient to "light up" this old nidus of infection, thus setting up an active process.

The statistics from post-mortem examinations reveal the fact that latent tuberculous lesions are frequently present in the lungs

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and lymphatics of individuals who during life presented no clinical evidences of the disease. Dr. Frederick Parkes Weber, in discussing this subject, remarks that "it must of course be remembered that very many cases, though tuberculous from the strict pathological point of view, never become tuberculous in the ordinary clinical sense of the term." A great number of people may be tuberculous pathologically, even while appearing to enjoy perfectly good health, and a contusional injury, if it involves their *weak spots*—by which is meant their *tuberculous spots,* may suddenly become tuberculous from the clinical standpoint as well. This may explain the apparent paradox, "why muscular men, such as athletes, runners, football players, boxers and other persons who lead healthy, open-air lives, and who, owing to their splendid physique, might be supposed to be specially resistant towards tuberculosis (but are, it must be remembered, particularly liable to contusional injuries and strains), sometimes surprise everyone by more or less suddenly falling victims to tuberculous infections, especially of the lungs."

A very striking case of this kind is reported by Dr. John B. Hawes of Boston. The patient was a motorcycle policeman who lost control of his machine while endeavoring to avoid a collision and was severely injured on the right side of the chest. He immediately began to cough and raise blood, and was never thereafter as well as before the accident. Previously he had "never had any serious illness in his life, and was in appearance one of the strongest men physically in the entire force." Five months later he was too ill to work, and eleven months thereafter three specialists reported that he had tuberculosis of the right lung. After sanatorium treatment the man was returned to duty for a short period, but later became permanently disabled, and applied for a pension. Because of the legal questions involved, the whole case was very thoroughly studied and the pension awarded on the ground that the man had been incapacitated by pulmonary tuberculosis, contracted as the result of accident sustained in active service.

Hawes also records two cases where the patients suffered trauma to parts of the body other than the chest, but the accident was promptly followed by the development of pulmonary tuberculosis. The first patient was a pregnant woman whose lungs had been examined and found sound shortly before her hand was crushed in the sliding door of an elevated car. The accident caused a miscarriage, and the woman was constantly under the care of her family physician for the following six months, when she was found to have pulmonary tuberculosis. In the suit for damages instituted against the transportation company, Dr. Hawes testified that he believed the pulmonary tuberculosis to be the direct result of the accident.

Such cases as these seem to indicate that a person unaffected by tuberculosis may fall a victim to it as a result of a traumatic lesion, but practically, such an etiology is rather hard to establish. Gittings states that while "it is a well known clinical fact that a severe trauma of the chest may sometimes be followed by active tuberculosis of the pleura and lungs, a perfectly satisfactory explanation of this has never been forthcoming." He regards it as "obvious, of course, that the trauma could only activate a pre-existing focus and could not originate it. Although the resulting active lesion is found most often near the region of the trauma, at times it occurs at a distant point, even in the opposite chest, probably due to the *'contrecoup.'*

Many writers have observed the effect of chest lesions by *contrecoup,* and Fishberg, in particular, discusses it at some length. Physical exploration of the chest may disclose the lesion right under the site of the injury on the chest, but at times it is found far away from it, even in the opposite lung. This is an important point in cases where the responsibility for the disease must be established. Fishberg found in several cases of *basal phthisis,* the lesion being located in one of the lower lobes of the lung, that it was due to injury. In one of his cases the injury resulted from the kick of a horse, and another resulted from the rebound of an automobile, striking the chest. Fishberg does not, however, bring forward any conclusive evidence to prove that these incidents were the cause of a direct tuberculous infection. While he says that it is "theoretically possible" that after a contusion of the lung, the pulmonary tissue may be devitalized so that tubercle bacilli brought in with the inspired air might find a soil suitable for growth, but to prove such a case it would be necessary for a new lesion to be found during an autopsy, after careful search has failed to reveal any old tuberculous foci anywhere else in the body. No such case has so far been reported, so the evidence must as yet be regarded as inconclusive.

Turning now to my second contention, that a latent, pre-existing tuberculous focus in the lungs may be stirred into activity by an injury to the chest, or less frequently to some distant part of the body, we find ourselves upon a much firmer footing. Although the subject has never received very general consideration, even by specialists in diseases of the lungs, there are still a considerable num-

ber of cases on record where the relation between injury and subsequent active phthisis is too obvious to be denied. Occasionally a general miliary tuberculosis has followed the rupture of a latent focus, which precipitated the tubercle bacilli into the blood stream, thus quickly disseminating them throughout the body.

It is not essential that hemorrhage should immediately follow the chest injury in order to establish the relation between the injury and the disease, for considerable damage may be done to the lung without any hemorrhage resulting. In fact, it may be some time before any clinical signs of tuberculosis are visible. But even if no tubercle bacilli appear in the sputum for many months, we are not justified in ignoring the effect of the antecedent trauma, because everyone who has dealt with tuberculosis knows that the disease may be present for long periods in cases of "spontaneous" origin, before we are able to find the tubercle bacillus in the sputum.

Fishberg states that it takes about eight weeks for a tubercle to develop, and he, therefore, believes that if we find signs of phthisis, especially tubercle bacilli in the sputum, a few days after an injury, we may conclude that we are dealing with a pre-existing lung disease. But in cases in which the symptoms, such as fever, emaciation, cough and expectoration, make their appearance from three to six months after the injury, in a person known to have been well before the accident, and the physical signs of a local lesion appear even later, it is obvious that there was a causative relation between the injury and the disease. German authorities limit the time for the appearance of symptoms after the injury to six months, although there are undoubtedly exceptions, which must be judged on individual merits. In our own army we recognized responsibility for several years; the Veterans' Bureau takes charge of all ex-service men who have developed tuberculosis since their discharge from service, and now, over four years since the signing of the armistice, men are constantly coming under the care of its tuberculosis division.

Bosanquet has cited several cases where chest injury was immediately followed by pneumonia, and at a considerably later period tubercle bacilli were found in the sputum. This writer admits that "the pathology of these pulmonary cases is not very clear," and that "a condition of bruising with hemorrhage in the pulmonary tissues might give rise to similar physical signs, and might, perhaps, provide a suitable soil for the bacilli." He emphasizes the importance of bearing in mind "the possibility that in these cases there may have been latent tuberculosis of the lung before the accident, and that this was quickened into fresh activity by the lesion."

The manner in which an injury to the chest producing contusion of the tissues, may increase the symptoms and produce a more rapid course in a patient who previously suffered from an active tuberculosis, is well illustrated by a case reported by Pottenger in which the patient stumbled, and fell upon a piece of iron, fracturing the sixth rib on the left side in the anterior axillary line. The rib punctured the lung, resulting in hemorrhage and traumatic pleurisy. Two months after the hemorrhage, a localized tuberculous process was found surrounding the point of injury. The inflammatory process was the seat of marked activity, causing toxemia with rise of temperature. There had previously been a small, slightly active tuberculous process in the left apex, and as Pottenger had not examined him personally before, he was unable to state positively that there was no old lesion at the site of the injury. The patient had, however, "been examined shortly before receiving the injury, by a competent man, who found no evidence of trouble at the base." It seems probable, therefore, that this was "a new location in which implantation of bacilli from the old lesion had been favored by the contusion of the tissues."

I have observed a number of cases in which active pulmonary tuberculosis apparently resulted from traumatism. The following case recently came under my care: A young man, apparently well, with a negative history, struck his right chest, over the fourth rib, on the corner of his office desk. Traumatic pleurisy followed, which subsided in a few days, leaving considerable tenderness at the seat of the injury. In about eight weeks the patient began having a temperature of from 99° to 100° F., with a slight cough. The symptoms gradually increased, and in about four months from the date of accident tubercle bacilli were found in the sputum, and his physician detected moderate dullness and moist rales over most of the upper right lobe. The disease had continued active for over one year when I first examined the patient, and it is still active. The whole clinical course in this case seemed to point definitely to the accident as the cause of the active disease.

This brief review is to the end that no reliable data exists to prove that an original pulmonary tuberculous infection can follow injury to the chest. The well established fact that a large percentage of the population have latent tuberculous lesions somewhere in their bodies, makes it seem more probable that injury to the chest serves to activate an already-existing focus. Nevertheless, in cases

where it is desired to establish the responsibility for the development of active, clinical signs of pulmonary tuberculosis, the physician is perfectly justified in stating that the patient's tuberculous condition is the *result* of the accident. Had the patient not been subjected to the trauma, there is every reason to believe that his health would have remained as good as it appeared to be before the accident occurred.

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TUBERCLE BACILLI NOT STAINABLE BY ZIEHL AS AN AID IN THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS—THE MUCH GRANULE.*

BY

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It is generally known that we frequently meet with cases of tuberculosis that can not be proven to be such by the sputum, even after the various methods of concentration have been carried out and thorough search has been made for the bacilli.

It has been found that the sputum from a considerable number of the clinically tuberculous, in which no bacilli could be found, was infectious to guinea pigs, tubercle bacilli being found in the glands and other organs of the pig injected with such a sputum. This caused the assumption that there must be a form of the tubercle bacillus that would not take the ordinary Ziehl stain.

Hans Much,[1] in 1907, working on the assumption that there must be another form of the tubercle bacillus, was able by a special Gram stain to demonstrate small, round, blue-black bodies of varying size, more often showing a reddish tinge and a pinkish band connecting two or more granules or trailing out from one of them. He demonstrated these bodies in the glands of a guinea pig that had been injected with bovine tuberculosis, but in which no Ziehl forms could be demonstrated. They were also found in the lung tissue of a tuberculous calf in which none of the Ziehl staining forms could be demonstrated. Some of the lung tissue from this calf was incubated for about six days, after which Ziehl forms were easily seen. There was also a great increase of the Gram positive forms. The pus from cold abscesses in which Ziehl forms were not found, was incubated on suitable media and the Ziehl forms afterwards seen. Many animal experiments have been carried out, to the conclusion that there is a transitional form of the tubercle bacillus that does not take the Ziehl stain, but which are of sufficient virulence to produce the disease. It is probably a degenerative type that is closely related to the bacillus of bovine tuberculosis.

These conclusions have been substantiated by a number of observers, and the transition from one form to another and back again, demonstrated by cultural methods and inoculation of guinea pigs. Wirth[2] showed that the peritoneal exudate of guinea pigs inoculation with the granule, at first showed the granular forms and then the Ziehl staining forms, and back again to the Gram staining forms. In practically all the diseases that are known to be tuberculosis, the Gram staining form is present much more frequently than the Ziehl form. In 13 cases of lupus vulgaris, Krüger[3] found only three positive for Ziehl, while all contained the Gram forms. In 8 cases of the clinically and pathologically proven cases of glandular tuberculosis, no Ziehl staining forms could be found in any, while the Gram staining form was demonstrated in all. They have been found in tuberculosis of the urinary tract, in carious teeth and nodular keratitis, and most interesting of all Much,[4] in 1910, reported that he had found an organism in Hodgkins' disease and lymphatic leukemia, identical morphologically with the granule he had previously described as present in tuberculosis.

A discussion of the relation of the Much Granule to pulmonary tuberculosis, is of much greater interest. Körber[5] examined the sputum in 167 cases of suspected tuberculosis and found Ziehl staining forms in 54 per cent, and Gram staining forms in 64 per cent. Weirauch reports the examination of 50 sputa, of which 16 per cent were positive for Ziehl in direct smears, 52 per cent for Ziehl after antiformin concentration, and 72 per cent positive by Much's modified Gram method. The antiformin treated sediment of these sputa negative by Ziehl but positive by Gram, was injected into a guinea pig, causing death in 48 hours from thrombus. In this thrombus were found many short, Ziehl positive bacilli.

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 8, 1923.

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2. Wirth: Munch. Med. Wchnschr., 1908, p. 1687.
3. Krüger: Munch. Med. Wchnschr., 1910, p. 1165.
4. Much, Hans: Munch. Med. Wchnschr., 1910, p. 685.
5. Meader, Chas. H.: Am. Jour. Med. Sciences, Dec., 1915.

Much's[6] discussion of the biological and chemical relationship between the Ziehl and Gram staining forms, is most interesting and explains the failure to find the Ziehl staining forms in the clinically tuberculous. The granule may be a degenerative form of the tubercle bacillus or a stage in the natural evolution of the bacillus, or they may be classed as spores or resistance forms. The fact that they are predominantly found in old cavities, cold abscesses, sclerosed lymph glands, indolent lupus lesions and old cultures indicates that they are produced because of unfavorable conditions and surroundings. Old cultures which contain only Gram staining forms may be revived by more favorable cultural conditions, with a reappearance of the Ziehl forms.

As is well known, the Ziehl staining property of the tubercle bacillus is due to a fatty acid component. In experiments the fatty acid property was destroyed by different solvents of different strengths and time of action, and it was found that the Ziehl staining property could be weakened and finally destroyed. The bacillus could then be stained by a Gram stain. The further action of the solvents would produce a homogeneous mass that was not stainable. The loss of the fatty acid component that takes the Ziehl stain is thought to be a degenerative change, produced by the protective forces of the body, as in caseous masses and indolent lesions. The fat splitting property of the lymphocytes plays a prominent part in destroying the fat content, and the proteolytic ferments of the leucocytes very probably destroy the granule itself, which is probably a proteid.

In view of these facts, we may conclude that we will more often find Much granules in the initial stage of tuberculosis, the time the protective processes are at their height and before cavity formation. It may also be assumed that a focus that has been quiescent for some time may suddenly break down and empty its contents, which have been inaccessible to the proper nutriment and therefore would contain only Gram forms. This view is substantiated by the frequency with which we meet patients who have been in perfect health and suddenly begin to show clinical symptoms of tuberculosis. No Ziehl staining forms can be found in the sputum of these patients, but after carrying it through the process for demonstrating Much Granules, this Gram staining form will be found in a large number of cases.

A patient with symptoms of such a nature as to justify a sputum being sent to the laboratory, is just and sufficient reason for every method being used in an effort to find tubercle bacilli in some form. In my laboratory it is a routine procedure to examine for Much granules every sputum that does not contain the Ziehl staining form. The result has been most gratifying, as a definite diagnosis of tuberculosis has been made in a number of cases which would have otherwise passed undiagnosed.

For a control of technic, a guinea pig was injected with a sputum that contained only Gram staining forms, and the pig x-rayed to reduce

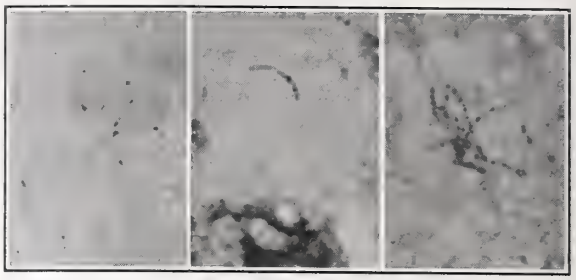

Fig. 1.—Much Granule (X 1500). (A) Most typical and frequent form seen; (B) a single organism, identified by the communicating band; (C) showing the band extending from the granule. The band is pink in the stained specimen.

his resistance and shorten the time of infection. The pig died in about 2 months and showed a number of cheesy glands that contained numerous Ziehl staining forms.

It will not be necessary to burden you with the technic of the procedure in this essay, as you can at your leisure find an excellent portrayal of the method in "Clinical Diagnosis," by Dr. J. C. Todd. I would say, however, that it is much better to collect the sputum for a week than for twenty-four hours, as is usually recommended.

The organisms are seen as blue-black bodies, about half the size of a staphylococcus. They are often tinged with red, and frequently a reddish band may be seen connecting two or more of the granules, or the band may be seen extending from one side of the granule. They are small objects, and being very similar to several forms of cocci, they may be confused with the latter; hence it is a wise precaution to declare positive only those that have a pink connecting band or extension.

To recapitulate: The Much granule is probably a degenerative form of the tubercle bacillus, the degeneration being due to unfavorable cultural conditions, and as the fatty acid content becomes deficient, the proteid constituent predominates, which causes resistance to Ziehl stain and more absorption of Gram stain. They are more often found in old cavities, cold abscesses, fibroid lesions, sclerosed lymph glands and incipient pulmonary lesions. They are a resistance form of the bacillus, that is, spores, and are much

6. Much, Hans: Munch. Med. Wchnschr., 1910, p. 685.

lower in virulence. Their presence gives a much more favorable prognosis than the Ziehl forms. They may be closely related to the bovine type of the bacillus.

All facts being considered, it is my belief that a routine examination of all sputa for Much granules, in which the classical tubercle bacilli are not found, will enable one to make an early, definite diagnosis of tuberculosis much oftener, and at a time when the right diagnosis will be of the greatest value.

ABSTRACT OF DISCUSSION.

Dr. Charles M. Hendricks, El Paso: It was my privilege while attending the International Convention for Tuberculosis in Rome, Italy, to have heard Professor Much's original paper on his granules. The discussion following the presentation of his paper was indulged in by men of every nationality, in which there was a great deal of severe criticism and doubt expressed. However, time has taught us that the Much granule does exist; but one must be careful not to confuse other cocci with the granule.

Dr. L. W. Fetzer, Dallas: Ordinary wild yeast cells sporulate under certain conditions. The Much granule is probably a similar sporulation form of the tubercular bacillus. The optimum under which this occurs will have to be found out.

Dr. Kenneth M. Lynch, Dallas: I wish to call attention to a possible source of error in examining sputum for these organisms. One of the most common types of organism coming to the attention of one examining material from the mouth, throat or other parts of the respiratory tract, is the so-called streptothrix group. These commonly show as segments or diphtheroids, and in the ordinary examination are very much like the granulated bodies shown in Dr. Wilder's slides. I am quite certain that a bacteriologic study beyond the average would be necessary to distinguish these Much organisms from other bacteria, which are not tubercle bacilli but show the same granule formation.

Dr. John R. Lehman, Dallas: I have recently been interested in that comparatively rare condition, polyserositis or Pick's disease. The majority opinion points to tuberculosis of the serous membranes as the etiological element in these cases, yet it is very difficult to demonstrate the tubercle bacillus in the lesions or exudate. As explanation of this difficulty, it has been suggested that the organism at work may be an atypical bacillus, perhaps allied to that of avian tuberculosis. I should like to know whether Dr. Wilder has studied any cases of polyserositis with reference to the Much granule as the underlying cause of the pathology presented by them.

Dr. Wilder (closing): I am unable to answer Dr. Lehman's question, as I have had no experience in polyserositis or Pick's disease; nor have I seen anything in the literature with reference to the Much granule being found in it.

With ordinary care there should be no errors made. No organism should be declared positive that does not have the connecting pink bands, or a band extending from one organism. This is a distinctive feature. Streptothrix may be differentiated by being in much longer chains, with more regularity in size, and the absence of pink bands.

It has been emphasized here, today, how difficult it is to make the diagnosis in the very incipiency of the disease, and any method that will increase our ability to diagnose tuberculosis at a time when the disease is curable, should at least be given consderation.

INFLUENZA, CLINICAL SYNDROME AS SEEN IN CHILDREN.*

BY

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There is no disease which causes such universal infection as influenza. This pestilence produces an enormous disturbance in trade, as was well demonstrated during the last pandemic, and of which disturbances striking examples are recorded by the historians of earlier epidemics.

There is no doubt but the suddenness of general infection, which furnished the chief reason for believing in the miasmatic nature of the contagion, has been greatly exaggerated. Gradually proof accumulates that isolated cases, gradually increasing in number, are the precursors of the epidemics. The first cases are overlooked, or considered to be some simpler disease, and are retrospectively diagnosed and classified.

The period of invasion is, on an average, fourteen days. From this time on, following the first case, the epidemic develops rapidly, attaining its climax in about fourteen days or, at the longest, three weeks; and then comes, as a rule, quickly to an end in a further period of from fourteen days to three weeks. It follows that the duration of the epidemic is from four to six weeks, and if we add to this the period of invasion, the total duration of the epidemic is from six to eight weeks. After the epidemic follow the "trailers," in gradually diminishing number. The disease occurs most frequently in the fall and winter months, and often attacks the same person several times.

Up to the past few months we have accepted the theory that the disease is due to a very small bacillus, about eight-tenths of a micro-millimeter long and four-tenths of a micro-millimeter broad. The bacillus was discovered by Pfeiffer, in 1892. It is usually found in the mucous membrane of the nose, throat and lungs, and is present only in influenza cases. The poison generated by this germ resembles a group of bacterial proteins described by Buchner. Such poisons occur within germs and are excreted, to a limited extent, in the media in which they grow. The diphtheria and tetanus bacilli are examples of these germs. The toxins affect the central nervous system greatly. Thus we find severe nervous depression in the course of an attack of influenza, just as we do in the course of a severe attack of diphtheria.

There has been some doubts as to whether the bacillus of Pfeiffer was the cause of the

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pandemic of 1918, which did so much damage to the armies during the World War, and exacted such a severe toll in civil life. Within the past two years Drs. Peter K. Olitsky and Frederick T. Gates, of the Rockefeller Institute, have discovered an organism in the nose and throat of patients during the first thirty-six hours of the attack, which they have named, *"Bacterium pneumosintes."* This is, they believe, the cause of influenza.

In children there are three distinct types of the disease, as follows:

1. That which affects the respiratory tract.
2. That in which the brain and nervous system are affected.
3. That affecting the gastrointestinal tract.

These have a common group of symptoms, complications establishing and completing the syndrome.

When the respiratory tract is involved, we usually have either a pharyngitis, tonsillitis or bronchopneumonia, and in very young children, often a severe bronchopneumonia, with a general toxemia, in which instance the prognosis is bad. Frontal sinus involvement, middle ear infection and tuberculosis, are frequent complications.

The nervous type is the most serious form of the disease, but less frequent. It involves both the brain and general nervous system. In these cases there is extreme irritability, and if the patients are old enough to complain, headache becomes a prominent symptom; also, pain in the limbs, and the muscles of the entire body, is complained of. Twitching is sometimes a marked symptom, and convulsions are frequent, as are such symptoms as photophobia, stupor, coma, retraction of the head, with high temperature and rapid pulse. The temperature may go as high as 103° F., or, in cases of severe toxemia, may go below normal.

The gastrointestinal type has been in my experience, the most frequent severe type in the epidemics of the past four years. In very young children this is not only the most frequent but the most severe form of the disease. Vomiting and diarrhea, usually accompanied by fever, will be found in this class of cases. The child will suddenly refuse to take the breast, if it is nursing, or the bottle if it is artificially fed. It will be restless and seem dissatisfied and peevish. The sleep will be disturbed, so that insomnia will be a frequent symptom. In spite of careful dietetic treatment, and an effort at thorough cleansing of the gastrointestinal tract, the patient will show the same clinical picture in midwinter as in the severe type of summer complaint in midsummer. Convulsions will be frequent, though not always present. Such children suffer severely, owing to the malnutrition, and to the extreme exhaustion following continued vomiting or diarrhea. They lose flesh and resemble the atrophied condition usually present following an acute attack of summer complaint.

Case No. 1.—In the family are the father and mother, with six children, ranging in age from 10 months to 14 years. Thirty days prior to an attack of influenza, the four youngest children had mild attacks of measles, with complete recovery, symptomatically. In the spring of 1919, the family was stricken with influenza, which lasted for from 10 to 15 days, beginning with 10-months-old twins, which were being partly bottle fed. One by one they all had the gastro-interic type of the disease. One of the babies, treated by a fellow physician, died on the third day of the attack, from exhaustion, following severe vomiting and diarrhea. The second baby (twin), a boy 3½ years old, was stricken, and I was called in consultation. There was high temperature, convulsions, vomiting and diarrhea at this time. Two days later, three other children, 6, 12 and 14 years of age, respectively, were stricken in a similar manner. Because the diarrhea seemed uncontrollable, despite the fact that all of the ordinary remedies, including hypodermic injections of morphine and atropine, were used, two other physicians were called. In spite of all, on the fourth day the 3½-year-old child died, and on the next day the baby, 10 months old, followed. On the sixth or eighth day the girl, 6 years old, died, making a total of four fatalities in less than 10 days. All had previously had measles, except the two older children, 12 and 14 years, and these two survived the attack. The father and mother, some 10 days later, were also stricken, but responded to treatment in four or five days.

The number of green mucous and bloody stools in these cases varied from 15 to 30 per day.

In all types of the disease, the syndrome is intensified with the advent of complications. A prevailing complication runs quite as true to the prevailing type of primary involvement as does the type to the season. When complications manifestly take a case over, the syndrome merits its full name, *symptom complex*, and it is modified to cover the complication as well as the primary involvement. The danger is in the complications.

ABSTRACT OF DISCUSSION.

Dr. W. D. Brown, Beaumont: The clinical syndrome of influenza as seen in children, is a large subject. I am going to limit my discussion to the gastro-intestinal type. Dr. Reeves reports a rather severe cases of this type. While we occasionally see a high mortality from influenza of this type in children, and while we know that this type of the disease is more common in children than in adults, yet the authorities agree that influenza as a whole runs a less severe course in infants and young children than in older children or adults.

I believe that in many instances clinical findings are held to indicate intestinal influenza, when the malady, whatever it is, should not come under that heading. I am rather slow to make that diagnosis. I concede that Dr. Reeves is fully justified in making the diagnosis of gastro-intestinal influenza in the cases which he reported, because they came at a time when influenza was epidemic, in the spring of 1919,

but I believe there are a great many cases of simple gastro-enteritis due to food poisoning, which are called gastro-intestinal influenza.

I want also to mention one clinical entity, as I consider it, which I believe should not be classed as gastro-intestinal influenza. I am speaking of what has been described by several authorities as epidemic acid intoxication. This is a disease which occurs in the winter months, but it does not present the picture of gastro-intestinal influenza. In gastro-intestinal influenza the authorities describe the symptoms as being those of incessant vomiting, marked prostration, pain in the abdomen and severe diarrhea, with sometimes blood in the stools. In the epidemics of acid intoxication which I have seen during the last two winters, the principal symptom is the incessant vomiting, with no marked degree of prostration, although there is rather marked stupidity and dullness. There is no complaint of pain in the abdomen, and no diarrhea, but some constipation. If the urine is examined, even early in the attack, the acetone bodies are found present.

Dr. Reeves (closing): The cases I reported were true intestinal types of influenza. A good pathologist examined the secretions from the nose and throat, and the stools, and pronounced the laboratory findings positive. The children would cry with pain in the stomach, and would vomit and purge, and in every way show the symptoms we see described in the best medical literature.

THE PREVENTION AND TREATMENT OF DIPHTHERIA*

BY

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EPIDEMIOLOGY.

Diphtheria was accurately described during the first century of the Christian era, but it had been known for hundreds of years. Many careful descriptions appear in the subsequent literature, and Bard studied the disease in this country during the eighteenth century. Its present name was assigned by the great French physician, Brentonneau, in 1836. Loeffler and Klebs isolated the causative bacillus, and soon after the toxin was determined, Bhering discovered antitoxin.

Diphtheria is known the world over, but it is essentially a disease of temperate climates, and usually occurs in epidemic form during the winter months; but a contact epidemic once started may run its course during any season. The disease is endemic in all large communities, and carriers of the bacilli are found to vary between two and seven per cent of the population. Milk-borne epidemics are not infrequent, and water supplies may carry virulent organisms.

The average incidence for New York City is 15,000 cases each year, but one of the long-cycle epidemics occurred in the United States during 1921, and New York passed its median during the first six months of that year. The Bureau of Communicable Diseases of the Texas State Board of Health received reports of 2,207 cases during 1921[1], which probably represented not more than 50 per cent of the actual incidence. We must consider that Texas has at least 4,000 cases of diphtheria annually. The yearly average for the United States is near one-quarter of a million. City health records show that cases are steadily reported from the larger centers, but many physicians never report their cases of diphtheria, and many smaller towns seldom, if ever, send reports of epidemics, much less the occasional case.

It has been shown[2] that infants are relatively immune to diphtheria, whereas children between the ages of one and six years have an immunity of less than 40 per cent. That large group between six months and two years of age, have a negligible natural resistance. Adults, however, have a high degree of immunity, as much as 90 per cent, but containing that susceptible group which is an essential factor in the occurrence of epidemics.

PREVENTION.

The highest susceptibility to diphtheria lies among children in the preschool age, but during the first years in school exposure to carriers and to actual cases, is more frequent, and it is usually the school child who carries diphtheria to his younger brother or sister. It seems that the largest work of prevention should begin in the public schools, and to be successful the health officer must have the co-operation of the school board and teachers. The pupils must be given a clear understanding of the plan, and the parents should be carefully instructed. In addition, the public should be steadily informed concerning the possibilities of absolute control of this dread disease, and the lives that may be saved thereby. In order to keep this information before you, and to recall it to your attention, the two most important factors in the prevention of diphtheria will be discussed. It is the opinion of Sidbury[3] that over 95 per cent of diphtheria could be eliminated from this country if these two procedures were generally and intellgiently used.

The Schick Test.[4-5-7]—Sufficiently-aged diphtheria toxin is freshly diluted so that 0.2 c.c. will contain one-fortieth of a minimum lethal dose for guinea pigs. This amount is

*Read before the Section on State Medicine and Public Hygiene, State Medical Association of Texas, Fort Worth, May 9, 1923.

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3. Sidbury, J. B.: South. Med. Jour., Vol. xiii, p. 474, July, 1920.
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then injected into the skin on the flexor surface of the forearm. At the same time, a similar amount of the same dilution, which has been heated at 75° C. for ten minutes, to destroy its specific toxin, should be injected intracutaneously on the flexor surface of the other forearm. At the site of each injection a white elevation should appear. These will change to reddish papules, and they should be observed on the first, third and fifth days.

A positive reaction indicates that the person is susceptible to diphtheria; a negative reaction that he is immune to the disease[6]. A positive reaction is indicated by an area of redness where the unheated toxin was injected, which reaches its greatest intensity about the fifth day, persists for another week, and leaves an area of pigmentation with some scaling. In this negative reaction, the skin remains normal, and the subject's blood contains at least 1/30 unit of antitoxin per c.c. of serum. False negative reactions are frequently seen, and it is on their account that the control injection is made. In these instances the skin reacts to the horse serum and autolyzed bacilli; there is a marked redness at the point of injection within twenty-four hours, which usually disappears within five days and leaves very little if any scaling. Since it is not produced by diphtheria toxin, the reaction also occurs in the control. Naturally, the same reaction is observed in the control if a person is susceptible to diphtheria and is also sensitive to the proteins injected. This is called a combined reaction.

If, for any reason, such as the objections of parents, a Schick test cannot be made, one may do a Kellogg test on guinea pigs[7]. This test may be done at a distance from the subject, and is a laboratory procedure of marked importance to the unskilled. The Schick test may be contrasted with small-pox vaccine which, if negative, suggests immunity, and no one may be said to be immune from diphtheria until a susceptibility test shows a negative reaction. Since from 60 to 80 per cent of all children between the ages of six months and six years, are susceptible to diphtheria, it is not improper to consider that all of them are in danger of contracting the disease if exposed to a carrier. About 80 per cent of all cases of diphtheria occur in this age group[8] and the mortality among these children is very high. After the sixth year immunity becomes more general, and among the older children and adults the Schick test should always be done. By means of this test, 12.3 per cent of 2,911 naval recruits, were found, in one series of the tests, to have no immunity[9].

The test enables one to know who, among his private patients or in school groups, may develop the disease. If active immunity has not been induced, antitoxin should be given to these patients, if exposed, and to them only. The immune do not need antitoxin, and

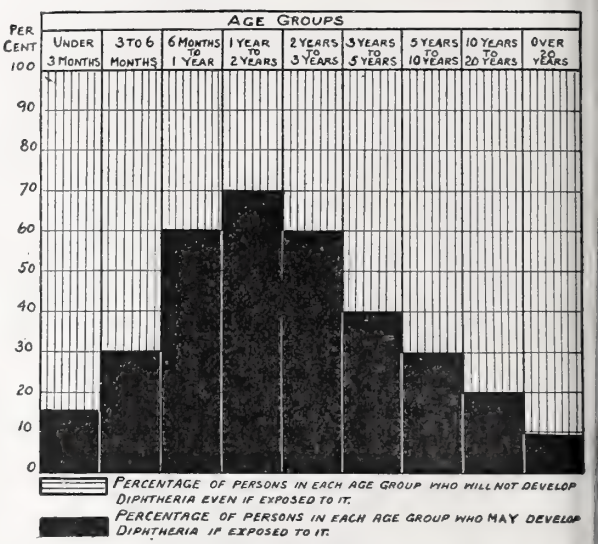

CHART No. 1.—Showing the early increase in susceptibility to diphtheria, followed by the development of a natural immunity.

no one should be sensitized to horse serum without good reason; furthermore, the antitoxin is a needless and considerable expense. The test points out those among known carriers who may or may not develop the disease, and it aids in the diagnosis of clinically doubtful cases of diphtheria.

Active Immunization with Toxin-antitoxin.[10]—Toxin-antitoxin is a mixture of diphtheria toxin with enough antitoxin to slightly under-neutralize it. It is prepared so that a single dose for a child or adult is one cubic centimeter, and this amount is given subcutaneously, exactly like typhoid bacterin. Three injections, a week apart, should be given and, after six months, one may expect an active immunity in about 90 per cent of those injected. Practically every one of the remaining 10 per cent may be made immune with a second series of injections. By this simple procedure, then, it is possible to make almost every person in this country immune to diphtheria, and to absolutely control the disease.

6. Zingher, A.: Jour. Lab. and Clin. Med., Vol. vi, p. 117, Dec., 1920.
7. Kellog, W. H.: Jour. Am. Med. Assn., Vol. lxxviii, p. 782, 1922, and Jour. Am. Med. Assn., vol. lxxx, p. 748, March 17, 1923.
8. Park, W. H., Zingher, A., Byard, D. S., Banzhaf and Greenwald, Schroder: Symposium on Modern Methods for Prevention of Diphtheria, Arch. Pediatrics, Vol. xxxviii, pp. 329-379, June, 1921.
9. Norwood, B. F.: U. S. N. Med. Bull., Vol. xv, p. 485 April, 1921.
10. Park, W. H.: Toxin-Antitoxin Immunization Agains Diphtheria, Jour. Am. Med. Assn., Vol. lxxix, p. 1584, Nov 4, 1922.

When manufacturers began to prepare these mixtures a few regrettable mistakes were made, but during recent years the mixtures have been perfectly safe, and the reactions from them are exceedingly mild; in adults less than those from typhoid bacterin, and in children almost negligible. We have seen that three-fourths of all children between the ages of six months and six years, are susceptible to diphtheria, and that three-fourths of all cases of diphtheria occur in this group. It seems to me proper, therefore, to insist that all of these children should have the advantage of active immunity. In this group, a preliminary Schick test is unnecessary, but it should be done six months after the injections to definitely determine individual immunity. The morbidity and mortality from diphtheria have remained nearly constant during the past ten years,[11] but should these children be given toxin-antitoxin we should soon have a diphtheria-immune population.[12]

Only those older children and adults who have a positive Schick reaction should be given toxin-antitoxin, and it is this group only that should receive prophylactic doses of antitoxin when exposed to diphtheria. Prophylactic doses of antitoxin lend protection for not more than six weeks, whereas the injections of toxin-antitoxin produce immunity for several years, and probably for life. The latter should not be given for two or three weeks after antitoxin has been administered, and it cannot take the place of antitoxin during outbreaks of diphtheria, since the immunity from toxin-antitoxin mixtures is developed slowly, several months being required.

Numerous observers have shown that the city child has more immunity to diphtheria than the country child. Furthermore, the city practitioner has the advantage of good hospitals, intubation experts and trained bacteriologists. Hence active immunization is more important to the country practitioner than the city physician, if that be possible, and he should begin to use this method of prevention in his everyday work.

Carriers.—Diphtheria bacilli have been found to live 14 or 15 weeks on partially dried particles of membrane, and the disease is transmitted by these viable organisms, or directly in mucus or saliva from a carrier. Following an attack of diphtheria the throat usually becomes free of bacilli within a month, but the occasional patient becomes a chronic carrier, and leaves in his wake other carriers or active cases. It becomes of extreme importance to find these carriers during an epidemic, and they are found by systematic culture of both throat and nasal secretions of all suspects. Others will be found by the routine culture of all sore throats which may be seen at any time. Many carriers harbor nonvirulent organisms, while others with virulent bacilli in their throats and nasal passages work in restaurants, dairies and butcher shops, and constantly infect the nonimmune. These carriers are differentiated by injecting cultures into guinea pigs, and the latter group should be isolated until they become noninfectious.

TREATMENT.

The Schick test has proved that diphtheria toxin may, and can be fixed by the body cells within six hours. If this misfortune occurs in any given case, antitoxin in any quantity is of no avail as far as that toxin is concerned. Then we must consider that any person who has diphtheria may, within the hour, fix a fatal dose of toxin in his body cells. At that moment we become nurses instead of physicians, for the patient will die. It is of first importance, therefore, that we make an early diagnosis and administer enough antitoxin to neutralize the toxin that has been formed.

Early diagnoses are made by suspecting and culturing every membrane on the throat or bloody discharge from the nose, and by learning how to recognize diphtheria so that we will have the courage to give antitoxin to children before time is taken to make a culture and get a report from the laboratory. To wait for the bacteriologist's findings in any case that favors diphtheria clinically, is a practice that should be condemned. During a delay of twelve hours the heart muscle may absorb enough toxin to cause it to dilate, or a nerve may be paralyzed, even if the patient does not die from the toxin that has been fixed. If the differential diagnosis is not clear in any suspected clinical case, the safe plan is to give antitoxin. Carey[13] quotes the dictum, "a sore throat needing a culture for diagnosis needs antitoxin for safety," and this dictum applies to any throat which is sore, but shows very little general congestion along with enlarged lymph nodes, or presents a single patch which is not limited and confined to the tonsils. Rapidly developing hoarseness in a child almost demands antitoxin, and one must remember that membranous croup is diphtheria.

The dose of antitoxin is determined by the severity of the case and the time that has

11. Zingher, A.: Jour. Lab. and Clin. Med., Vol. vi, p. 117, Dec., 1920.

12. Zingher, A.: Diphtheria Prevention Among Children of Preschool Age, Jour. Am. Med. Assn., Vol. lxxx, p. 456, Feb. 17, 1923.

13. Carey, B. W.: Jour. Am. Med. Assn., Vol. lxxvii, p. 668, August 27, 1921.

elapsed since the onset. It should lie between 5,000 and 20,000 units in the mild and moderate cases, and between 20,000 and 50,000 units in the severe cases. A part of this dose should always be given intravenously, if possible. The sole object of the injection is to neutralize toxin, and by the intravenous method the antitoxin is immediately available. A single dose is recommended. The antitoxin remains in the blood for several days, and repeated doses serve no useful purpose. If, in the very young, or for some other reason in older patients, a vein cannot be entered, the antitoxin should always be given intramuscularly, and in somewhat larger doses. By this method, however, valuable time is lost, since the antitoxin must first pass into the blood, and it does not become entirely available for twelve hours. A subcutaneous injection should never be given for treatment under any conditions. This method is employed only when prophylactic doses are given to produce passive immunity in those who have been exposed to the disease.

The intravenous injections should be given slowly, and at least fifteen minutes should elapse while the antitoxin is being expelled from the syringe. If the patient has had asthma or hay fever, or presents an hereditary history, or has had previous injections of horse serum, fractional doses should be given every thirty minutes, until there is a certainty that hypersensitiveness does not

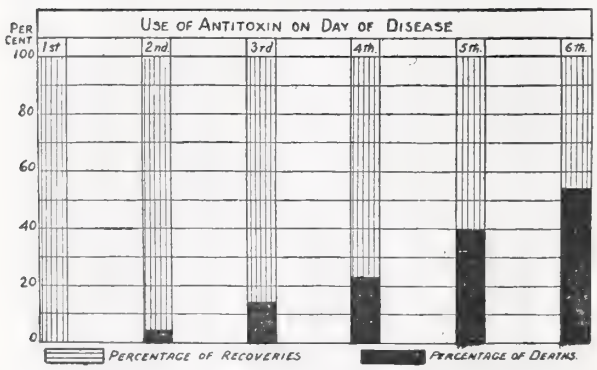

Chart No. 2.—Showing how the chances of recovery from diphtheria are increased by the early use of antitoxin.

exist, before the full dose is completed. In many patients a preliminary skin test is advisable.

Finally, every diphtheria patient should have absolute rest in bed, and not even be allowed to raise up on the elbows for one or two weeks after the temperature has returned to normal. This period should be doubled if the attack has been severe.

CONCLUSIONS.

The hope for further control of diphtheria lies in the hands of the private physicians and the general practitioners who will administer toxin-antitoxin to all children between the ages of six months and six years; who will employ the Schick test to determine the nonimmunes in those children older than six years, and will then immunize that group.

An early diagnosis must be made, and sufficiently large doses of antitoxin given intravenously without a moment's delay. If a vein cannot be entered, the antitoxin should be injected into the muscles, never under the skin.

We must be positive in our clinical judgment. If a throat or nose seems to us to be diphtheritic, we must give antitoxin and let the laboratory confirm our diagnosis. We should not lose twelve hours of valuable time and an occasional patient, by waiting for a bacteriological report. Every white or gray spot on a throat should be cultured. Thereby the mild cases which are so dangerous to others, may be discovered.

Patients should be kept flat on their backs for two weeks or more after recovery. This may prevent the sudden deaths that occur from heart failure, and the paralyses that, otherwise, may appear.

Lastly, every opportunity to inform our patients and the public about these simple procedures which will prevent diphtheria, should be taken advantage of, and the urgency of an early diagnosis explained.

SOME OF THE COMMON LESIONS OF THE KNEE JOINT.*

BY

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WACO, TEXAS.

The knee joint is the largest joint in the body, and because of the number of structures that enter into its make up and the pathological changes these structures are liable to, it becomes the most interesting as well. Some of the commonest lesions of the knee result from trauma. The internal semilunar cartilage, for example, is prone to become displaced or fractured. It has a very intimate and strong attachment to the inner surface of the internal lateral ligament along its entire inner border, while the outer and anterior attachments are to the tibia along the attachment of the coronary ligament and to the intercondyloid tubercle of the tibia. A sudden rotation of the tibia on the femur will often, by reason of this attachment to the internal lateral ligament, which prevents

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 8, 1923.

the cartilage from following the tibia, result in dislocation or, rather, fracture of the cartilage. This accident is common in coal miners, who work in mines with such a low roof that it is necessary to maintain the stooping posture as they swing the body from side to side shoveling coal. Rutherford Morrison, who has practiced a great deal for the English coal miners, is perhaps the leading authority on the surgery of the semilunar cartilage. Another class very prone to this accident is the athlete, especially the football player.

The symptoms of fractures or displaced semilunar cartilage are so well known as to hardly justify enumeration: A sudden, sharp twist of the knee, followed by severe pain, locking of the knee in the flexed position, often a prominence at a point marking about the junction of the anterior and middle third of the segment of the cartilage, and usually an effusion, coming on rapidly. The knee at times may be unlocked easily, in which event the patient usually rests until the soreness and effusion get a little better, then goes on using the limb, long before the cartilage has had time to recovery from the injury and resume its normal size and position. Following an accident of this character, rest should be enforced for several weeks, and during part of this time the knee joint should be fixed. It is probable that this procedure would result in cure in many of the cases, but these injuries are not looked upon as serious, as a rule, so that proper treatment is seldom submitted to.

It is easier to injure the semilunar cartilage the second time than it was the first time, and finally, after several displacements, it becomes very easy to slip out and lock the knee. Many of these sufferers learn how to replace the cartilage without much difficulty, and they go on about their duty without giving much thought to it. Eventually, however, serious changes are set going in the synovial membrane, that add very materially to the suffering and disability. As the synovial membrane becomes thicker and more vascular it requires less trauma to produce effusion, and when it appears it subsides more slowly. The synovial fringes that are, as a rule, harmless, may become thickened and elongated as a result of long standing irritation and increased blood supply, so that they extend into the joint cavity sufficiently far to be caught between the articular surfaces; this causes pain and locking of the joint, and adds to the effusion. Starting with a displaced or torn semilunar cartilage that is improperly treated, it is usually a question of a few years until the affected joint possesses but a fraction of its former function, beside being a source of pain and discomfort. It is, therefore, highly advisable in all cases in which the semilunar cartilage becomes established as a source of trouble, to remove it before sufficient time has elapsed to permit permanent and crippling changes to develop.

Removal of the semilunar cartilage does not interfere with the function of the joint, and it affords great relief where indicated. We speak of dislocation of the cartilage, but it is more often a fracture or a splitting, or it may be both a fracture and a dislocation, as occurred in a case that came under my care. A football player who had suffered for two or three years from periodic locking of the knee, with pain and effusion, finally got a locked knee that he could not relieve by the ordinary procedures. An *x*-ray picture revealed what appeared to be a bony structure about two inches long attached to the intercondyloid tubercle of the tibia. At operation this proved to be the remains of the anterior portion of the cartilage, sufficiently infiltrated with a calcareous deposit to cast quite a dense shadow. Removal effected a satisfactory cure.

Another common condition met in the knee, is synovitis, which may be traumatic or infectious. The average case of traumatic synovitis due to injury applied from outside the joint, such as a sprain or a blow, usually recovers rapidly following rest, strapping with adhesive plaster, and local application of heat or cold. But if the injury is sufficient to cause serious damage to the joint structures, effusion may persist for a long time, with frequent relapses, unless the damaged structures are properly repaired. Let us take, for example, laceration of the internal lateral ligament, sufficiently extensive to permit undue lateral motion of the joint. If this injury is treated expectantly, the result will often be a permanently weakened joint that develops synovitis from an injury too slight to be noticed by a sound joint, but if the laceration in the ligament is properly sutured, so that recovery takes place without weakening, the synovitis usually recovers fairly promptly and there are no permanent after effects. Where effusion persists for a good while atrophy of the muscles about the knee becomes pronounced, especially if there has been strapping and fixation. But some authorities claim that muscle atrophy appears as a part of the group of symptoms common to chronic synovitis, and while it is made worse by strapping and fixation it is not altogether dependent upon it. Massage, properly applied, does much to lessen the atrophy, and hasten recovery.

Most cases of chronic traumatic synovitis are due to some injury, such as described above, which has not been properly treated, or to some of the various forms of internal derangement of the knee, such as hypertrophied synovial fringes, loose bodies, etc. It is usually possible to locate the cause without a great deal of trouble, and the removal of the cause will result in cure in most cases, unless the condition has lasted so long that changes leading to permanent crippling have already taken place, and even then great improvement is usually obtainable. A recent article in the *Annals of Surgery* refers with some enthusiasm to the benefit derived in synovitis from aspirating the fluid. The writer asserts that the presence of effusion into a joint, even of small amount, acts as a very distinct irritant to the synovial membrane, and in that way tends to increase the amount of effusion. He advocated very strongly the removal of fluid, even if there were only a few drachms present, and in addition he advised active use of the affected joint. He presented histories of several cases so treated, which tended to bear out his claims for this plan of treatment.

Synovitis due to infection is far more serious than the traumatic variety, because it is capable not only of destroying the integrity of the joint, but of destroying life as well. Since Murphy wrote on joint infections, we have assumed that in most cases these infections are secondary to foci of infection elsewhere in the body, such as the tonsils, pharynx, teeth and gums, urethra, gastro-intestinal tract, and so on. It had been known for many years that gonorrheal urethritis is very often followed by an infection in one or more of the joints, and the gonococcus had been isolated from the effusion many times. Murphy pointed out in very forceful manner that the gonococcus was not the only germ that was capable of metastasizing from its point of primary involvement to the joints of the body, and it was his opinion that acute inflammatory rheumatism—so called—is but a metastatic infection, the primary focus being elsewhere in the body, and that it differs from the purulent arthritis in that the germ causing the purulent condition is more virulent than the strain that happens to cause the rheumatism.

Septic arthritis is very often ushered in by a chill, which is speedily followed by pain, swelling and marked effusion, and often by high temperature, and the patient appears to be very sick. Left alone the patient soon flexes the knee to a point that permits the greatest relaxation of the capsule of the joint, because in that position the pressure from the effusion is at its lowest, and hence the pain more bearable. It is remarkable how quickly this position of flexion will become permanent, in so far as the patient's efforts to reduce it are concerned, and if the attending surgeon will permit every case of septic arthritis will develop it. As intra-articular pressure increases, absorption of the septic poisons increase, the capsule of the joint is put on the stretch and degenerative changes take place with much greater rapidity than if the pressure is kept nearer the normal. The tonicity of the muscles about an inflamed joint is markedly increased. This is an effort to put the joint to rest, but at the same time it draws the articular surfaces against one another with more than the normal degree of force, which not only increases intra-articular pressure, but also causes a tendency to erosion of the articular cartilage, which leaves the bony surfaces bare, favoring bony ankylosis. In view of the certainty of ankylosis in a vicious position unless flexion is prevented, no treatment of purulent synovitis is complete which does not provide for keeping the leg extended; and furthermore, in view of the tendency to bony ankylosis unless the joint surfaces are kept apart, weight extension should be provided. These two indications are well met by the use of Buck's extension. The intra-articular tension is best kept down by aspiration of the joint, which should be repeated as often as required by reaccumulation of the pus. If the infection happens to be particularly virulent, free incision into the joint will be indicated, and irrigation with some antiseptic solution should be advised. It is a little difficult to properly evaluate irrigation with antiseptic solution in septic cavities, because the germs that are active are buried well beneath several layers of protecting granulation tissue and can not be effectually reached unless these layers of granulation tissue are destroyed. It is more probable that most of the benefit in septic joints that have been freely drained and irrigated, comes from the free drainage, rather than from the irrigation.

The treatment employed in some quarters, of freely incising infected joints and following immediately with active motion, gained some considerable favor during the recent war. Reports of the results obtained were very favorable. They indicated that much better drainage was secured, that the percentage of cases of ankylosis was greatly reduced, and that the death rate was lowered. In the orthopedic review that appears from time to time in the *Archives of Surgery*, this method receives favorable mention.

There will be a considerable percentage of ankylosis following any line of treatment of pus in the knee joint, so that the question of dealing with this condition will present itself from time to time, and in spite of the fact that there is but little excuse for allowing a knee to become ankylosed in a vicious position, this condition is by no means rare. If ankylosis is due to muscle contraction, it can usually be relieved and function well restored, but in those cases where the flexion is marked and has been present for a good while, it will be necessary to consider the blood vessels and nerves, because they, too, will have undergone shortening and are likely to be injured by reducing the shortening too rapidly. I observed a method of gradual reduction of flexion used in the Children's Hospital, Boston, which Dr. Lovett said was very satisfactory. It was necessary to first determine that the contraction is muscular, which is easy to do. The knee is straightened as much as possible without undue pain, and a plaster cast applied from the toes to the groin. The cast is made quite strong across the poplyteal space, the strong portion extending a few inches above and below the knee. After the cast has set well, the plaster is cut through just opposite the knee joint on the flexor surface, the cut extending about half way around the circumference. A wedge is then driven into this opening, and in this way the flexion is straightened a little each day or so, when an additional wedge is driven in. It may be necessary in extreme cases to change the cast a time or two before the leg is entirely straightened. Dr. Lovett said he was able by this procedure to straighten a right angle flexion in about two weeks. This gradual reduction is not dangerous to the nerves and blood vessels, and it is simpler and more satisfactory than the more radical procedures. This treatment, of course, is not applicable to cases in which the ankylosis is between the bony surfaces, such as fibrous or true bony ankylosis.

If ankylosis takes place in a favorable position, two courses of procedure are open. One of these is to leave the limb alone, with the assurances that a knee joint firmly ankylosed in a good position is exceedingly useful as an organ of locomotion and weight bearing, which, while it has its drawbacks, such as being awkward when sitting, and giving a clumsy catch to the walk, is stable and painless. The other procedure is that of arthroplasty, which was advised and practiced by Murphy. His reports were very favorable to that operation and gave quite an impetus to it, but it seems that the results obtained by him in the knee joint have not been equaled by any one else. Some surgeons, even, are abandoning it because their disappointments more than outweighed their successes. While it has been found possible to get a moveable joint in a fair percentage of cases subjected to arthroplasty, the joint is rather frequently weak, unstable and painful. The present status of arthroplasty of the knee is that it is very often disappointing, though at times results are brilliant, and it seems to be a widespread opinion that the ankylosed knee is probably more serviceably and less often painful than the joint obtained by arthroplasty.

In dealing with contractures and fixations of the knee, it is important to bear in mind that inflammatory conditions of the periarticular structures, particularly if long standing, may be followed by a fixed joint, due to the formation of unyielding scar tissue. The joint capsule itself while sufficiently large to accommodate the normal changes in position of the knee, may by reason of changes in its structure due to chronic inflammation, become contracted to such a degree that movement of the knee joint becomes much embarrassed or even impossible. If all obstruction to free motion is removed save that of a contracted capsule, or periarticular scar tissue, the effort to restore function to the joint may well fail. Ankylosis of the knee joint may be due to either fibrous or bony adhesions between the articular surfaces, or to contractures of the muscles, usually the flexors, or to the deposit of fibrous tissue in the periarticular structures of the joint, or to contraction of the joint capsule as a result of chronic inflammation.

In those cases of chronic infection of the joint, the inflammation may not be sufficiently severe to destroy the joint structures, or the ligament, for that matter, but it may lead to widespread changes in the synovial membrane. It is not uncommon to see a villous arthritis in which the synovial surface is covered with hypertrophied villi. There is usually more or less effusion present in such a joint, and it becomes the source of much discomfort and disability. It becomes necessary to dissect the entire synovial membrane out at times in such cases, but this radical procedure relieves pain and restores function, though it may be followed at times by ankylosis more or less complete.

In a case of sepsis due to pneumococcus Type I, cited by A. R. Felty and C. S. Keefer, Baltimore (*Journal A. M. A.*, Nov. 10, 1923), the interesting features of which were the absence of pneumonia and the existence of a focus of infection in a paranasal sinus, treatment of both the local and general infection resulted in prompt recovery.

INTERNAL DERANGEMENTS OF THE KNEE JOINT.*

BY

CHAS. F. CLAYTON, M. D.,

FORT WORTH, TEXAS.

Despite the fact that derangements of the knee joint are common sources of disability, the subject has received but scant attention from American medical writers. The result is that it has not been developed to a degree commensurate with its importance. Accurate knowledge of the condition is possessed by few physicians outside the small number who have made a special study of the bones and joints, and many people are going about suffering from varying degrees of disability on account of surgically curable knee joint disturbances.

In England, on the other hand, much work has been done on the subject, and it is to the writings of British surgeons that the investigator must turn for comprehensive information. This is perhaps due to the greater prevalence of these conditions in that country, where a fairly large percentage of the population is engaged in coal mining, and where the game of soccer football is universally popular. From the coal mines come large numbers of knee-joint derangements, produced by the crouching posture in which the men often have to work. In this position the knees are flexed and the feet everted, thus favoring injury to the semilumar cartilages. Soccer is second only to coal mining as a cause of the condition.

In order to understand the mechanism of derangements of the knee joint, and the treatment, a thorough knowledge of the anatomy and mechanics of the joint is essential; hence the following brief review of these at the outset may be pardoned:

The knee is the largest joint in the body. On account of its location, between the two longest bones, with their powerful leverage, and on account of its structure, it is more often the seat of mechanical derangements than is any other joint. Because of its dual function of weight-bearing and motion, the joint must combine great strength with ease of movement. That its possesses these essentials is evident from a study of its structure. Its strength is further demonstrated by the infrequency of traumatic dislocations in the joint. (Figs. 1 and 2.)

The knee is a specialized hinge joint, in which a range of one hundred and eighty degrees would be possible but for the impingement of the calf on the thigh. The chief ligaments of the joint are, the anterior, internal and external lateral, posterior, capsular and crucial. The anterior ligament is formed by the patellar tendon, extending upward from its insertion in the tibial tubercle, and containing the patella, a sesamoid bone, in its substance. The internal lateral ligament is simply a thickened band in the capsule, situated slightly posterior to the center of the joint on the mesial side. The external lateral ligament is composed of two narrow bands, situated slightly posterior to the center of the joint on the lateral side. The shorter of these is sometimes absent. The posterior ligament is composed

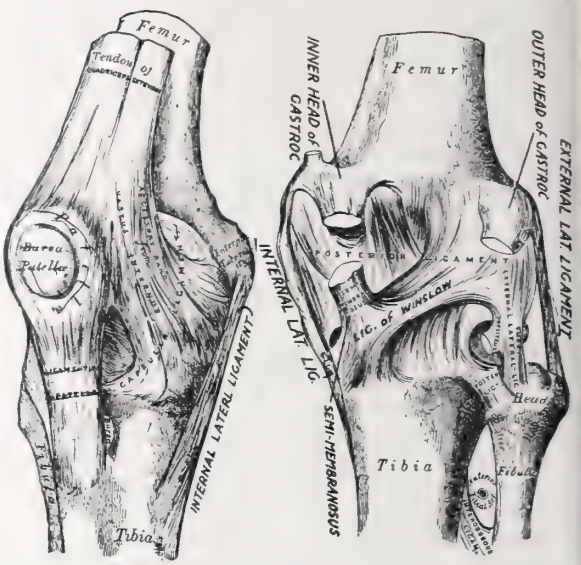


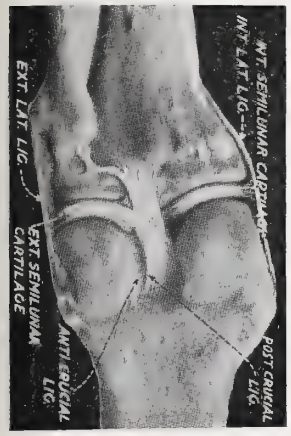
FIG. 1.—Right knee joint, anterior view. (Gray.)
FIG. 2.—Right knee joint, posterior view. (Gray.)

of the capsule, reinforced by a strong band projected diagonally outward and upward from the tendon of the semimembranosis, known as the ligament of Winslow. The capsule surrounds the joint and is more or less intimately blended with the foregoing ligaments. Anteriorly it forms a large sac above the patella, the suprapatellar pouch or bursa. The crucial ligaments are the anterior and posterior. The former arises from the superior surface of the tibia, anterior to the spine, and courses upward, outward and backward, to be inserted into the inner and posterior portion of the lateral condyle of the femur. The latter extends from a point immediately posterior to the tibial spine upward, inward and forward, to the outer and anterior portion of the mesial condyle. On the superior surface of the tibia are the internal and external semilunar fibrocartilages. The internal cartilage, which is crescent shaped, is insecurely attached anteriorly in the rough surface of the bone in front of the spine. It is firmly attached posteriorly, and also on its convex margin, where it is intimately adherent to the internal lateral ligament. This fact is partially responsible for the frequency with which the meniscus is injured. The external cartilage forms almost a complete circle, and is attached anteriorly and posteriorly between the extremities of the internal cartilage. It has no attachment to the external lateral ligament, being separated from this structure by fatty tissue and the tendon of the popliteus muscle (Fig. 3). The two cartilages are connected in front by the transverse ligament. Beneath the patella, and extending downward under the patellar ligament is a fat pad (Fig 4). Passing up from this pad to the intercondyloid notch is the ligamentum mucosum. This is continuous below with the synovial fringes at either side of the lower margin of the patella, which form the ligamenta alaria.

The joint is roughly divided into two compartments, the anterior and posterior. The anterior compartment is composed of the suprapatellar pouch and the space below, bounded by the patella in front and the tibia and femur behind. The posterior compart-

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 8, 1923.

ment is composed of the sac formed by the capsule at the back of the joint. It is also divided in the sagittal plane, by the ligamenta alaria and mucosum anteriorly, the tibial spine, intercondyloid notch and crucial ligaments in the center, and a synovial structure extending from the crucial ligaments to the capsule posteriorly.



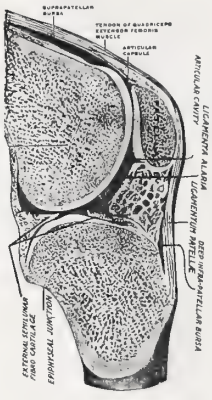


FIG. 3.—Showing intimate relation of internal semilunar cartilage to internal lateral ligament, and the lack of this relation of the external semilunar cartilage to the external lateral ligament. (Henderson.)

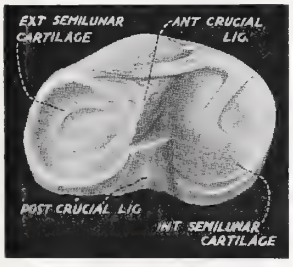
FIG. 4.—Sagittal section through the external condyle of the femur. Medial half of section from the lateral side. (The knee is slightly flexed; the joint surfaces have been pulled a little apart.) (Spalteholz.)

When the knee joint is fully extended rotation of the tibia on the femur is impossible, internal rotation being prevented by the internal lateral and crucial ligaments, and external rotation by the external lateral ligament and the ligament of Winslow. As the joint is flexed, however, rotation becomes possible, and increases as flexion progresses. According to one authority, thirty-six degrees of rotation is possible with full flexion. Hyperextension of the joint is prevented by the posterior ligament and by the tendons of the hamstring, gastrocnemeus and popliteus muscles. Forward displacement of the tibia is checked by the anterior crucial, and posterior displacement by the posterior crucial ligaments. In flexion all of the ligaments except the posterior crucial are relaxed, this motion being checked, not by tension of ligaments, but by contact of calf on thigh. The anterior ligament, being chiefly composed of the patellar tendon, has no fixed attachment above, but terminates in yielding muscle. The arc of flexion in the joint has been very aptly termed the "arc of weakness."

Common among the derangements of the knee joint is traumatic synovitis. It is usually due to a kick, blow or fall upon the joint, and is characterized by pain, tenderness and effusion. It can be recognized by these signs, the history of the injury and the absence of signs of other derangements. The treatment of this condition should consist of bandaging, preferably over wool, with an ice-bag, for twenty-four hours. If the effusion is marked, and does not begin to subside within forty-eight hours after the injury, the tension should be relieved by aspiration of a portion of the fluid. The condition usually subsides in a few days. If the effusion tends to linger after the subsidence of pain and tenderness, the patient should be allowed to use the joint, with elastic constriction.

Sprains of the internal lateral ligament are characterized by definite pain and tenderness over the attachments of the ligament and nowhere else, unless complicated by injury to the internal semilunar cartilage. The pain is increased by eversion and by internal and external rotation. In injuries of this type one not infrequently has to deal with a sprain fracture, a small flake of bone having been separated from the femur or tibia with the ligament. The treatment of the injury should consist of rest in bed, with a posterior splint and, later, firm bandaging, with elevation of the inner border of the shoe, to prevent tension on the ligament. In severe cases a brace of the knee cage type should be worn until the ligament can undergo repair. For chronic sprains of the internal lateral ligament, in which there is marked lateral mobility in the joint, numerous surgical procedures have been devised. The most recent are the operations devised by Edwards and Wilson. These operations are believed to promise better results than the measures heretofore practiced, though I have not had sufficient experience with either to pass authoritatively upon them.

The commonest derangement of the knee joint is that due to injuries to the internal semilunar cartilage. The mechanism of the injury is as follows: The knee is flexed and the foot markedly everted, thus rotating the tibia outward on the femur. In this position the internal lateral ligament is relaxed and



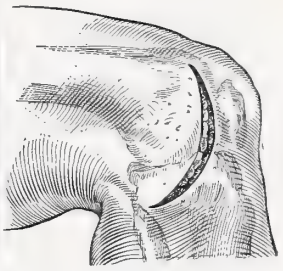


FIG. 5.—Showing the internal semilunar cartilage displaced outwardly; the anterior portion blocking extension. (Henderson).

FIG. 6.—Showing incision for removal of semilunar cartilage.

the internal cartilage drawn toward the center of the joint, beneath the most prominent part of the mesial condyle of the femur. If the leg is now suddenly extended the cartilage is caught beneath the condyle and literally ground or crushed against the tibia. The cartilage may be torn loose at its anterior extremity, split longitudinally or occasionally

torn across. The injury may occur at any portion of the anterior three-fourths of the cartilage. A common type of tear is that in which the central portion is split and displaced outward, leaving both ends attached (Fig. 5). This has been called by Rutherford Morison the "bucket-handle" tear. The torn portion of the cartilage is always displaced toward the center of the joint. The internal lateral ligament may be torn with the cartilage. The signs of an injured cartilage are, usually, severe pain and locking of the joint in flexion, followed by effusion and soreness. The patient not infrequently falls to the ground when locking occurs. In a majority of instances, the patient succeeds by manipulation in extending the joint soon after locking occurs, though occasionally it remains locked in spite of all efforts to reduce it. This condition may be simulated by synovial fringes, nipping of the retro-patellar fat pad and loose bodies. The distinguishing signs of a torn cartilage are, severe pain, firm locking, effusion and negative *x*-ray findings. It is important to have the patient carefully describe the degree of pain and severity of locking experienced when the injury was incurred. Transitory locking, sensations of "slipping" and slight pain, usually do not point to a torn cartilage. The pain in injuries to the internal cartilage is usually referred to the inner and front portion of the joint. Tenderness is manifest about the anterior attachment of the cartilage. In injuries to the external cartilage the pain and tenderness are generally referred to a corresponding point on the outer side of the joint, though this is not as constant as the localization of the former. The internal cartilage is far more commonly injured than the external. In 98 cases operated upon at the Mayo Clinic, for damaged cartilages, the internal was the offender in 94, the external in 4. The reasons for this are that when the knees are flexed the feet are everted to balance the weight, thus placing the internal cartilage in the danger zone, and the external cartilage is less firmly fixed, often slipping out of harm's way when caught.

If a patient is seen soon after the initial injury to a cartilage, while the joint is still locked, the first step in treatment should be to reduce the displaced cartilage and extend the joint. This can best be done as follows: Flex the thigh on the abdomen and the leg on the thigh. Grasping the foot with the hand corresponding to the side injured, and the lower part of the thigh with the other, rotate the leg inward, press the knee strongly into valgus, thus separating the tibia and femur on the mesial side, and quickly extend the joint. If reduction is successful no difficulty will be experienced in accomplishing full extension. The joint should be immobilized in extension, in a plaster cast, for at least four weeks, to allow the torn cartilage to undergo repair. The patient should then be allowed to walk on the joint, with elastic constriction if effusion tends to continue. If after this course of treatment has been followed, locking and synovitis again occur, the offending cartilage should be removed. If it is impossible to effect reduction after the first or any subsequent locking, the cartilage should be removed at once; but under no other circumstances should operation be performed unless locking has been repeated. In a large percentage of cases a cure can be effected by conservative treatment, if applied soon after the initial injury. After operation the joint should be bandaged snugly over a thick pad, and immobilized on a posterior splint for two or three weeks. After ten days, gentle, passive motion should be begun and gradually increased. By the end of the third week the patient should be moving the joint through two-thirds of its normal range, and exercising the quadriceps vigorously. He may be allowed to begin walking in from two to three weeks, and should be able to resume full duty in eight weeks. If there is any swelling in the joint after walking has begun, an elastic bandage should be worn until it subsides. Otherwise, the wearing of a support after operation is unnecessary. Attention should be called to the fact that in all serious derangements of the knee joint there is a pronounced wasting of the controlling muscles, especially the quadriceps extensor. Indeed, this may be a cause of continued disability after the original trouble has been corrected. This should be borne in mind, and pains taken to redevelop the muscles as a part of the after-treatment.

A condition which may rarely be the source of troublesome symptoms, is a thickened cicatrix at the anterior end of the cartilage. This gives rise to a sense of slipping at this point, is usually attended by tenderness at the diagnostic point, and may be accompanied by a palpable mass in this locality. The condition should be treated with rest, the use of a brace limiting extension, and graduated exercise. If this course of treatment fails to give relief in a month, the mass should be removed and the cartilage inspected.

An occasional source of trouble in a knee joint which has been the seat of an injury, is a recurring effusion. In such cases the joint should be bandaged and the patient encouraged to use it. If the swelling does not gradually subside under this management, it must

be determined whether there is an enlarged fat pad, slipping cartilage, loose body or, if the cartilage has been removed, whether a portion was left and is the source of trouble.

In more severe injuries to the knee joint the crucial ligaments may be ruptured. In such cases the lateral ligaments are likewise torn. The diagnosis of rupture of the crucials can usually be made by considering the functions of the ligaments. The anterior ligament is taut when the knee is extended, and prevents forward displacement of the tibia on the femur. The posterior ligament is taut when the joint is flexed, and prevents posterior displacement of the tibia. Both ligaments check internal rotation. The treatment of this condition, if seen early, should consist of prolonged rest with the knee extended in a cast or, after the first few weeks, in a calipre walking brace. The ligaments will often undergo repair, and surprisingly good results follow. Operative repair of the crucials has been done, but the procedure has never become popular. In the language of Sir Robert Jones, "The operation of stitching the ligaments is absolutely futile as a mechanical procedure. Natural cicatrical tissue, allowed to mature without being stretched, is the only reliable source of repair."

Fracture of the spine of the tibia may be caused by severe injuries producing dislocation of the joint. The symptoms are, pain in the front of the joint, beneath the patella, and interference with extension of the joint. The condition is verified by the x-ray, which should be employed in every knee joint injury of consequence. The treatment of this condition, if the joint can be extended, is prolonged immobilization in extension. If extension cannot be accomplished the tibial spine should be removed, and the joint treated as in rupture of the crucial ligaments.

A thickening of the retro-patellar pad of fat may follow an injury which causes increased vascularity or bruising. Such a structure may be nipped between the bones on full extension. The patient complains of soreness in the knee after walking and on ascending or descending stairs. There is tenderness beneath the patella, and pain in this region on passively extending the joint. The patient should wear a brace which permits flexion, but limits extension to about thirty degrees. The condition will usually subside in a few weeks.

Derangements of the knee may be due to loose bodies. The sources of these bodies are four in number, if foreign bodies are not included: First, a portion of a torn cartilage may in time become detached. In such case only one body is usually present. Second, the condition known as osteo-chrondritis dissecans, in which areas of bone become brittle. Slight traumas may cause small particles to be broken off from these areas. The etiology is obscure. The theory has been advanced that the end artery becomes plugged, resulting in localized death and sloughing of bone. The number of bodies occurring in this condition is not likely to exceed two or three. Third, in hypertrophic arthritis marginal osteophites may become detached. The number of bodies in this condition may reach five or six. Fourth, osteochondromatosis. In this condition the synovia take on the characteristics of the joint surfaces, forming first cartilage, then bone. The membrane hypertrophies and becomes pleated and pedunculated. The projections thus formed increase in size until they drop off, to become loose bodies in the joint. Large numbers of bodies are not infrequently found in this condition. Bland Sutton has reported a case in which 1,047 bodies were found. Henderson, of the Mayo Clinic, has removed 200 bodies in a single case.

The bodies are nourished by the joint fluid, and not uncommonly attain considerable size. The symptoms of loose bodies are those of a mechanical derangement of the joint. They may cause locking, though this is usually transitory, and accompanied by less pain and effusion than are caused by a torn semilunar cartilage. The patient is usually able to locate one or more loose bodies, the position in the joint varying. In many instances patients are able to move these bodies about in the joint at will. A positive diagnosis can be made with the x-ray in most instances.

The treatment of this condition is wholly surgical. If there is a single loose body, which can be palpated in the supra-patellar pouch, it can be fixed in position by acutely flexing the leg, and removed under local anesthesia, making the incision directly over the body. If multiple, the bodies should be removed by one of the procedures described further along.

What are the remote effects of untreated derangements of the knee joint? Jones and Lane have both stated that joint tuberculosis may be caused by neglect of these conditions. Another condition that often arises in knee joints subjected to long-continued irritation, is degenerative arthritis. The least that is likely to result is a permanently damaged joint, from a mechanical standpoint. Each time these joints are locked or sprained, with ensuing synovitis and swelling, there is damage to the ligaments and weakening of the controlling muscles, that, in time, may become very crippling.

TECHNIQUE OF OPERATIONS FOR DERANGEMENTS OF THE KNEE JOINT.

Preparation for operation should be very thorough. While experience has demonstrated that the knee joint is as tolerant of infection as is the abdomen, there is no part of the body where the results of infection are more disastrous. On the day before operation the joint and adjacent surfaces of the thigh and the leg should be shaved and scrubbed with green soap and water, followed by alcohol, and an alcohol dressing applied. On the table, benzine and iodine should be applied, with the joint in both flexion and extension, to insure against failure to reach the entire surface on accounte of minute folds in the skin.

In operations for removal of the internal semilunar cartilage, the artero-mesial incision is preferable. The patient is so placed that the knees are flexed to a right angle over the end of the table, and in slight Trendelenberg position. The incision begins between the condyle and the patella, about one inch above the lower extremity of the latter. It is carried downward to slightly below the joint line and curved backward, as shown in Figure 6. After the skin incision is complete the knife used should be discarded, and gauze or towels clipped to the wound edges. The incision is then carried through the fascia and capsule, the opening in the latter being much smaller than that in the skin. In removing the cartilage, care should be taken not to injure the joint surfaces, or the internal lateral ligament, to which the cartilage is attached on its convex margin. Search should be made for hypertrophied fat tabs and synovial fringes about

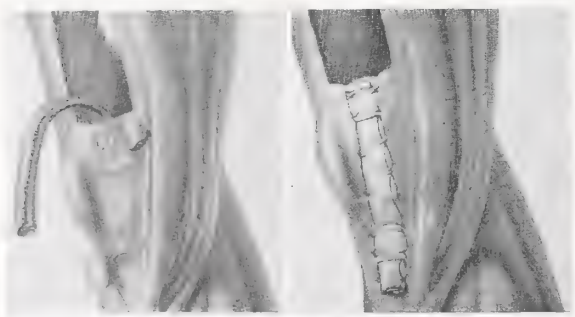


FIG. 7.—Showing method of preparing ligament from fascia and elevation of osteo-periosteal flaps. (Wilson.)

FIG. 8.—Showing facial band secured in position. (Wilson.)

the attachments of the cartilage. If any are present they should be removed, for they are occasionally the cause of continued disability after the cartilage has been removed. If the external cartilage is to be removed, the same incision, on the antero-lateral aspect of the joint, should be employed.

The procedure of choice for repair of a ruptured internal lateral ligament is that of Wilson (Figs. 7 and 8). In this operation, a strip of facia lata about six inches in length and one and one-fourth inches wide, is dissected from the inner aspect of the thigh and reflected downward, being folded on itself lengthwise so that the band shall comprise three layers of fascia, the middle third remaining attached above. Osteoperiosteal flaps, about three-fourths inch in diameter,

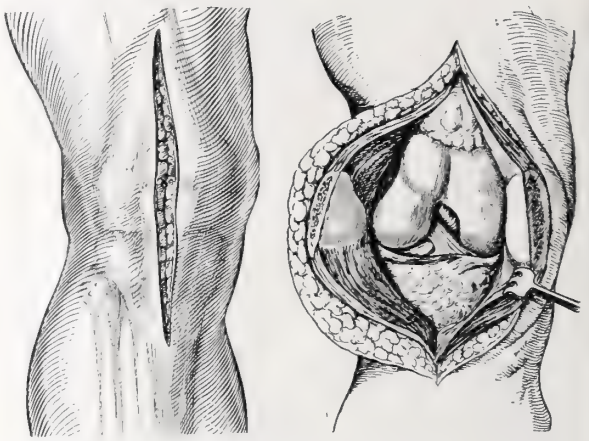


FIG. 9.—Split patella incision for exposure of the knee joint. (Albee.)

FIG. 10.—Demonstrating the splendid exposure of the knee joint obtained by bisecting the patella. (Albee.)

are turned back at the points of attachment of the ligament to the mesial condyle and surface of the tibia. The fascial band is passed beneath these flaps, which are then sutured in place, this anchorage being reinforced by additional sutures to the underlying divided portions of the ligament. The after-treatment consists of immobilization in plaster for eight weeks, when a long caliper brace is substituted, and worn for a period of four months. Flexion and extension of the knee are begun immediately after removal of the plaster.

For removal of loose bodies in the anterior compartment, and for inspection of the crucial ligaments, the split patella is the incision of choice (Figs. 9 and 10). This is a midline incision, six to eight inches in length, with the center over the patella. The incision in the skin may be made a little to one side of the center, so that it will not directly overlie the opening in the joint. The patella is sawn through, the capsule opened and the alar ligament divided. By flexing the leg an excellent exposure of the joint is obtained. This incision is not as suitable for removal of cartilages as the incision described above.

Treatment following this operation should consist of immobilization in full extension, preferably in a plaster cast, for three weeks. Weight-bearing and graduated exercises may then be permitted.

Loose bodies in the posterior compartment should be removed through the postero-mesial and postero-lateral incisions, which inflict very little damage to the joint (Figs. 11 and 12). These incisions are made with the joint flexed to a right angle, though the leg is not dropped over the end of the table, as in operations on the cartilages. In this position the capsule at the back of the joint is

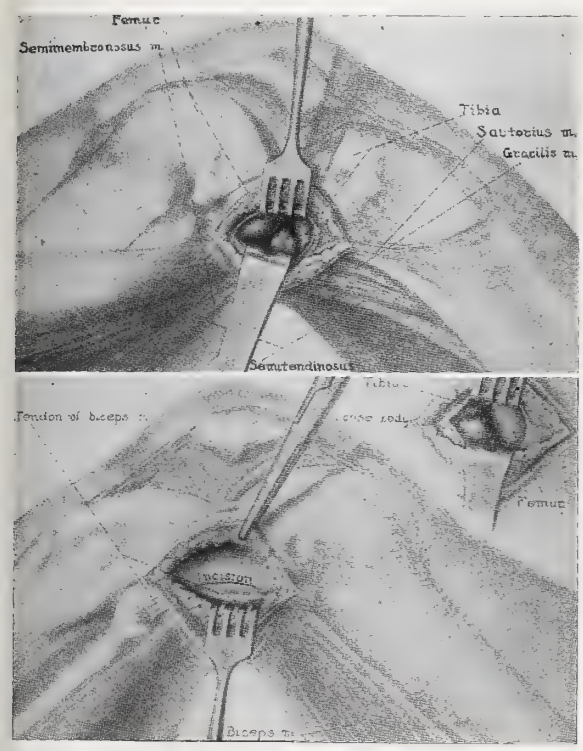


Fig. 11.—Internal postero-lateral incision. (Henderson.)
Fig. 12.—External postero-lateral incision. (Henderson.)

relaxed, and an excellent opportunity afforded for the inspection of this compartment. On account of the fact that this space is divided by a median septum into two lateral compartments, both internal and external incisions may be necessary, as this results in less trauma to the joint than is caused by thrusting an instrument through the septum (Henderson). The incisions are made immediately anterior to the tendons of the hamstrings, the capsule being opened longitudinally. Following the operation the joint is immobilized on a posterior splint for four or five days, and then the patient is allowed to walk.

In all operations involving the opening of the knee joint, a tourniquet should be employed.

CONCLUSIONS:

1. Internal derangements of the knee joint, though a common source of disability, have received scant attention in this country.

2. The commonest type of derangement is that in which the internal semilunar cartilage is torn.

3. In properly selected cases the results of removal of the cartilage are excellent.

4. Operation should not be done for torn cartilage, unless reduction is impossible following locking, or unless locking has been repeated.

5. Other causes of derangement are, traumatic synovitis, sprains of the internal lateral ligament, hypertrophy of the post-patellar fat pad, rupture of the crucial ligaments, fracture of the tibial spine, and loose bodies.

6. The *x*-ray should be employed in all cases of knee-joint derangement.

7. The knee joint is as tolerant of infection as is the abdomen, though infections in the joint are serious.

8. A wasted quadriceps muscle should be redeveloped by massage and exercise after operations for knee-joint derangements.

ABSTRACT OF DISCUSSION.

Dr. J. H. Dorman, Dallas: One of the things we should not do in the acute stage of synovitis, is to draw off the fluid. Nature has provided this fluid for the purpose of keeping irritated surfaces apart, thereby preventing adhesions. It is necessary that some of this fluid be retained in the joint until nature can react and repair the damage done, particularly in traumatism. If all of the fluid is drawn off there will certainly be adhesions, which will result in a limitation of movement.

I have in mind an operation for the removal of loose bodies in the joint. I do not recall the name of the author. An incision is made above the patella, beginning at the lower part, below the tuberosity of the tibia. The tuberosity of the tibia is chiseled away. The patella and patella tendon may be drawn inward, off the surface of the knee joint, exposing the whole surface and presenting a splendid field in which to work. In closing the wound, the tuberosity is tacked back to the place from which it came, and allowed to heal as would an ordinary fracture.

Dr. J. R. Bost, Houston: I have very little to say, except to emphasize the advisability of operating in these cases. I think many of us allow these old dislocated cartilages to go on and on and stir up trouble and produce a cripple when in many instances they could be relieved, just because we are afraid of the knee joint. I have seen infection in the knee joint following removal of the internal cartilage. The patient was a doctor. The operator was a man whose text-books many of you have, unread, perhaps, in your library. It will happen in the best regulated families, but the danger is much less than most of us here are inclined to believe. In the after-treatment of these cases, I begin to move the knee a little bit earlier than Dr. Clayton does.

Dr. Ross Trigg, of Fort Worth: This subject is of particular importance to the medical profession, since many cases of nontraumatic arthritis are confused with traumatic conditions. Under the present industrial laws, claims for compensation are frequently made, and the patients are supported by their physician, in the belief that such conditions have arisen from trauma. Therefore, it is important that the medical profession learn to differentiate between them.

Dr. Clayton (closing): In regard to the removal of fluid, the point is well taken by Dr. Dorman. I did not recommend the withdrawal of all of the fluid. I said that a *portion* of the fluid should be withdrawn, enough to relieve the extreme tension on the ligaments which, if allowed to go on, will produce irreparable damage. I think we should watch very carefully lest too much tension be exerted on the ligaments and damage thereby be incurred.

I am glad Dr. Bost brought up the question of the feasibility of operating on the knee joint. I think surgeons have been a little too timid about joint surgery. I would like to give two groups of figures that to my mind illustrate that better than any argument. Sir Robert Jones has done a series of six hundred cases of knee-joint operations without a single infection. Henderson, at the Mayo Clinic, has done more than three hundred without an infection. We know it is a human impossibility, with a rotating staff of nurses in operating rooms, to do three hundred, or even one hundred operations, without any flaw in technique, but we have taken chances. It simply demonstrates that the knee joint is tolerant of a certain amount of infection. Of course, we shouldn't become careless because of that assurance.

Football is perhaps the commonest source of this trouble, in this country, but football isn't as generally played here as the game of soccer is in England, and we don't have as large a percentage of people engaged in mining and other occupations that are productive of a large number of knee-joint derangements, here. I think that is the reason the British have developed the subject to a greater degree than it has been developed in this country.

The paper covered too much ground for any one paper. The subject can't be gone into thoroughly in the brief space allotted to a paper. It is almost impossible to stop after you start on the derangements of the knee joint without covering all the subject.

In regard to arthritis, I think that when we have a monarticular arthritis of a low grade that is not acute, such as gonorrheal arthritis, and other acute inflammatory conditions, invariably there is some accident, injury or irritation to explain it. There is perhaps something in infection and absorption of toxins, but where we see these as monarticular I think there is some local predisposing cause, and that cause is trauma, or continued irritation from occupational causes, or some such thing as that.

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PROPHYLAXIS OF MALIGNANT GROWTHS OF THE MOUTH, FACE AND JAWS.

Joseph Rilus Eastman, Indianapolis (*Journal A. M. A.*, July 8, 1922), reviews the various theories and beliefs as to the causation of cancer, especially of the tongue and lips. He urges that further education is necessary to impress physicians and the laity with the importance of recognizing precancer lesions of the skin and mucous membranes, especially when there is transition of epithelium, and dealing with them promptly. Finally, all must be taught that there is no health measure more important than rigid mouth hygiene, which, after all, means to employ a good dentist and to obey him to the letter.

FRACTURES ABOUT THE ELBOW.*

BY

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SAN ANTONIO, TEXAS.

In this discussion it will be my purpos to deal primarily with the question o function, as the criterion of the patien applying for relief is ultimate usefulness The principal purpose of treatment of frac tures about the elbow, which are prone t deformity, is to limit deformity, and if i any case there must be deformity and limite motion, to so arrange the position that ever with a stiff elbow use may still be had of th arm, hand and fingers. The economics o society demand this of us. The genera practitioner and general surgeon, into whos hands these cases usually fall, must keep th question of function constantly before them in treating fractures, particularly those abou the joints. When the elbow joint stiffens ir malposition, particularly in extension, with the hand prone, the patient is left in a most helpless condition, with a real encumbrance. An artificial limb would be better.

There are four points of ossification at the lower end of the humerus, namely: (1) The capitellum, ossifying in the second year; (2) the internal condyle, the fifth year; (3) the trochlear media, the eleventh year; (4) the external condyle, the thirteenth year, and fusion of all about the seventeenth or eighteenth year. This should be borne in mind in estimating the probable lines of displacement of epiphyseal separation in children, so as not to confuse these lines with fractures as seen in skiagrams. The bony anatomy of the elbow must be clearly in mind. These points of ossification are all anterior to the shaft, so that a line drawn perpendicularly through the capitellum and internal condyle, would bisect a line in the long axis of the shaft at 130 degrees; the anterior border of the trochlear surface is between 3 and 4 c.m. anterior to the anterior face of the humerus at the coronoid fossa. This curve forward of the articular surface is at once seen to be essential to elbow flexion. If it were in a plane with the shaft, the coronoid process would engage and prevent flexion, while in extension the olecranon would be thrown against the shaft about its fossa. About the elbow are an anterior, a posterior and two lateral ligaments, so fused as to be described as a single capsular ligament. The lateral ligaments, however, have to do almost entirely with lateral stability, while the anterior and posterior ligaments are relaxed and supported by muscles. Those muscles

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 8, 1923.

giving immediate stability to the joint are the triceps and anconeous behind, and the brachialis anticus and pronator teres, in front. Other muscles besides these, the origin or insertion of which are about the joint, have to do with displacement of fragments in fractures and control of fragments in attempted replacements. The most important of these are those arising from the

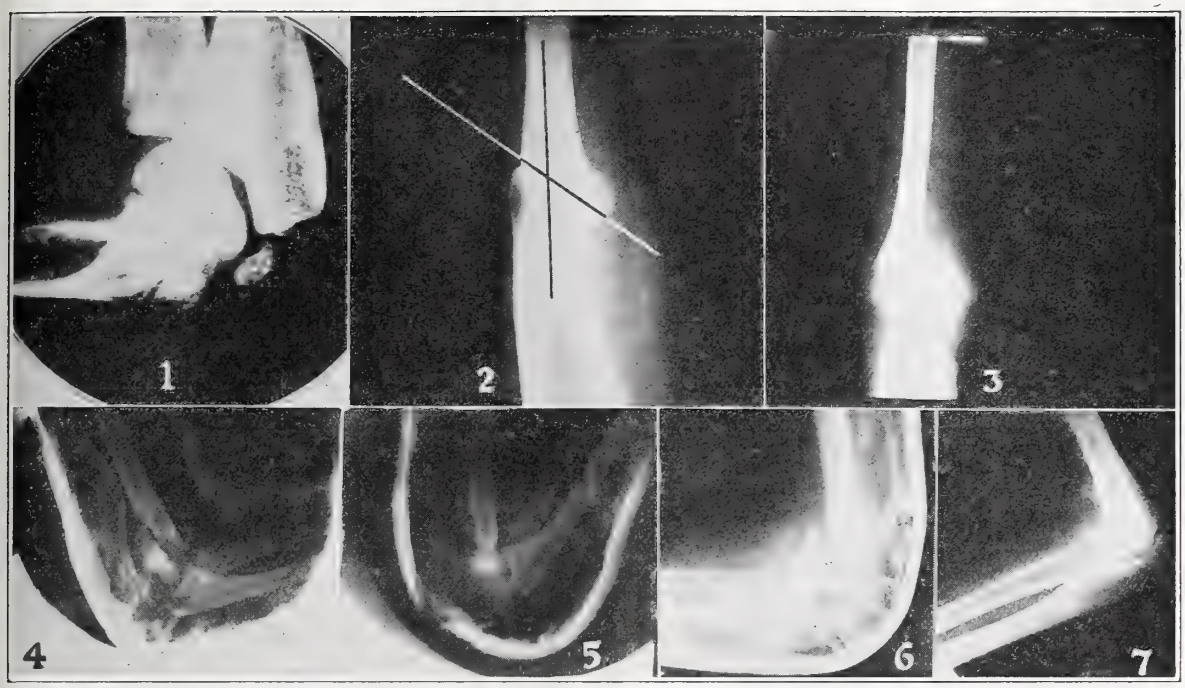

FIG. 1.—Showing the lines of ossification at eleven years.

FIG. 2.—The normal elbow, showing the angulation of the articular end of the humerus to the shaft.

FIG. 3.—Old fracture of the lower end of the humerus ankylosed in extension and pronation, causing a useless arm.

FIG. 4.—Fracture of the lower end of the humerus with backward displacement of the distal fragment, and the elbow in 100 degrees flexion.

FIG. 5.—Same case as in Fig. 4, showing reduction of fracture by placing the elbow in 50 degrees flexion, with the forearm in supination.

FIG. 6.—Fracture of the lower third of the humerus, with anterior displacement of the lower fragment. Shows flexion of the forearm with increased deformity.

FIG. 7.—Same case as in Fig. 6. The fragment has been replaced by open operation and skidding it into position.

internal and external condyles. Regard for the lines of contraction of these as well as those muscles of direct stabilization, must be had at all times, as only through control of muscle pull by posture can corrected position of fragments be maintained.

You will find in all text-books varied descriptions and classifications of these fractures, with suggested methods of reduction and splinting in the various lines of fracture. It seems to me that herein lies one of the reasons for such frequent deformities; this lack of standardization by group, or type, with entire disregard of postural control and function.

The following is the grouping I have used for a long time, and I submit it as having been practical in my hands:

1. Fractures of the lower end of the humerus, described as transverse T fracture of the external condyle, or internal condyle, or of either condyle combined with a transverse fracture, the changed bony position of which is backward displacement of the lower fragment, forward displacement of the upper fragment with resulting deformity of the elbow in 130-150 degrees of flexion, and the forearm in pronation.

2. Transverse fractures of the lower end, often combined with a fracture line running into the joint, the lower fragment displaced forward and upward, while the upper fragment is displaced backward.

3. Fractures of the internal epicondyle, with the condyle displaced downward, which may occur alone or in any combination, and may cause limited flexion, or no deformity at all.

4. Fractures of the coronoid process of the ulna and head of the radius, in which limited elbow flexion and supination are the deformities.

5. Fractures of the olecranon process, in which there is no limitation of motion due to bony engagement, but in which full extension is maintained on account of pain.

The history, apparent deformity, estimation of actual deformity and *x*-ray, are essential points in diagnosis. From the history should be learned the character of the injury. Was the force direct or indirect,

and in what direction? Was the forearm in extension or flexion? Was the hand supine or prone? Was the arm fixed or free? By apparent deformity is meant the position the arm is held in. Is there any unusual appearance about the elbow; if so, what? How much function is there, and if function is limited, why?

Estimation of the actual deformity is made by palpation. Is the triangle formed by the internal epicondyle, external condyle and olecranon process true; and if not, what is the new line? Is lateral motion present? Is crepitus present? The latter is of minor importance, and the arm should not be roughly handled to elicit it. Is there a point of pain, and where? Is passive motion painful? If so, at what angle and at what point?

With this much information a fairly accurate diagnosis should be made. If there is displacement of the lower fragment, either backward or forward, as in a transverse fracture, it is palpable. If the capitellum or internal condyle is fractured it is not palpable, but flexion is limited. Of course, the *x*-ray is the final court and should be resorted to whenever available; but certainly much can and should be done in estimating damage and preventing deformity, without it.

The treatment of fractures of the first group is one of postural replacement. It will be recalled that this group comprises the various combinations of fractures at the lower end of the humerus, with displacements backward of the lower fragment. Under ether anesthesia, the operator standing in front of the patient, both hands clasped about the elbow, firm downward traction is made, with the forearm in 130 to 140 degree flexion, when with the fingers behind the lower fragment is pushed forward, and with thumbs in front the upper fragment is pushed backward, while an assistant slowly flexes the forearm in the supine position, to almost 50 degrees, and a long posterior splint is applied. In this way the relaxed flexors permit the upper fragment to glide backward against the tightening triceps, which splints it behind, and the upper end of the forearm supports it in front. This is what is generally known as Jones' position. Care must be had lest too acute flexion interfere with the circulation and produce a Volkman's paralysis.

In groups 3 and 4, comprising fractures of the internal epicondyle and the coronoid process of the ulna or head of the radius, this same method is applicable, differing only in that, as a rule, traction is not necessary. If a condyle fails to set properly, open reduction is indicated.

In group 2, in which the lower fragment is displaced forward, it has been impossible, in my hands, to get sufficient traction to overcome the triceps and carry the displaced lower fragment beyond the upper fragment; and, of course, until this step is completed, elbow flexion increases the deformity. I have, for this reason, resorted to open reduction in all such cases, using a skid for reduction. I have found that when this is done the fragments stay in position and no suturing or plating is necessary. The forearm is placed in Jones'

FIG. 8.—End results, showing function in case referred to in Figs. 6 and 7.

position. The value of this position should at once be apparent. Should limited motion result from the injury, the patient still has much use of his arm, forearm and hand. The stiffness resulting from keeping a joint at rest is much more easily overcome from a flexed position, being aided by gravity, pulling exercises—which are the easier, and weight carrying. The supine position of the hand is most essential, as in that position the carrying angle of the elbow is preserved. Pronation is easier to get back than supination; a hand flexed in pronation is a material disability. An elbow ankylosed in extension beyond 130 degrees, with pronation is, as I have said, indeed a useless thing.

The aftercare is most essential, as too frequently a joint is held fixed until complete union is obtained. Should the elbow be left in this flexed position for four or five weeks, stiffening will, of course, result, and the amount of function then to be obtained is problematical, possibly full function, but more probably limited motion. The forearm should be released by the third or fourth day, and the patient allowed or encouraged to extend it 5 or 10 degrees and return. Once is sufficient. Every two or three days thereafter, this is repeated, with encouragement to do more. After ten or fourteen days, there is no danger of the fragments slipping, even should extension be carried to 120 degrees. At the end of five weeks, when union is complete, there should be a range of free motion

of between 50 and 130 degrees, and in some cases full function. Pronation is allowed in the same measure. If the patient will carry this out himself, his muscles function and go into spasm when pain occurs, so that protection is had constantly. If the elbow is moved by someone for the patient, one group of muscles goes into extreme action in resistance while the opposing group is relaxed, and so damage may occur. The first is called active motion and the second passive—the names should be reversed.

The fifth group of fractures (of the olecranon) are best treated in a simple sling with the elbow about a right angle, until soreness has subsided. Use of the joint should then not only be permitted but encouraged. I base this assertion on the following reasons: It is impossible without the use of some foreign material, to hold the fragments together; if the elbow is kept in extension four or five weeks, the period of disability is greatly increased because of the difficulty in getting back to full flexion, which sometimes never occurs. Without union gravity will give extension when the flexors are relaxed, but as a matter of fact much of the attachment of the triceps is beyond the fracture site. Fibrous union will take place between the fragments and transmit all the triceps action necessary; this pseudoarthrosis has become a bony union in the several cases I have had. Use of the arm has been had in from ten days to two weeks, in eating and dressing, and in three cases laborers returned to work in four or five weeks, with no apparent disability.

CONCLUSIONS.

1. In fractures about the elbow, ultimate function should be the criterion, and accurate replacement is essential to good function.

2. A fairly accurate perception of the injury should be had without the aid of an *x*-ray, which latter, however, should always be used as confirmatory and for study of detail.

3. The many combinations of fractures are best grouped with a view to treatment, according to the deformity to be corrected or prevented.

4. Limited motion with the forearm in extension beyond 100 degrees, and in pronation, is to be avoided at all times.

5. Jones position is the most generally applicable, and when sufficient reduction cannot be gotten, a prompt open reduction is indicated.

6. In fracture of the olecranon, bony union of the fragments is not the first essential. A functioning elbow, with the shortest period of disability, is more important.

DISCUSSION OF FRACTURE OF THE FEMUR.*

BY

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It is not the object of this paper to discuss the treatment for fractures of the femur. The necessary information cannot be acquired from a paper.

Because of the deformity and disability following the usual treatment, it is the common medical opinion that bad results are to be expected in the treatment of fractures—particularly fractures of the femur.

In private practice, the physician is usually responsible to the patient only, and under these circumstances he has been able to excuse himself if he failed to get good results. The majority of present day fractures occur among industrial workers, and with the workmen's compensation act in force in more than thirty-eight states, they are usually treated by specially selected and qualified surgeons, and it is not surprising that the results are generally satisfactory; but many cases fall into the hands of unselected physicians, often with surprisingly bad results.

Recently the leaders of organized labor in the State of Washington charged the medical profession with being incompetent to properly treat fractures of the femur. Was this charge unfair? Should it not be challenged by the profession? Bad results do not necessarily follow fractures of the femur, but they frequently result from lack of proper surgical attention. In my opinion, the charge is not entirely unjust, and certainly it merits consideration.

In many cases, the nature of the injury, and the accompanying complications, are such that good functional results cannot be obtained, but I have on numerous occasions seen simple, transverse fractures, result in nonreduction and overlapping, from incompetent treatment; also cases in which external splints were applied, but no effort made to secure reduction, and in still other instances fractures treated with *x*-ray examinations, which were available.

Usually the bad results occur in cases treated by physicians who make no pretense to surgical qualifications—but not always. Often the general practitioner refers his fracture cases to some well known surgeon to insure good results, as it is generally presumed that any surgeon is qualified to treat fractures. Unfortunately, this is not true. Surgery is a broad field, with recognized

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special branches. Many well known surgeons are only "gynecologists," and no more qualified to treat a fractured femur than a general practitioner. Some of the worst results I have seen followed treatment by Fellows of the American College of Surgeons.

Lack of reduction is the chief cause of failure. Some of the worst results are due to this alone. Elaborate apparatus and careful daily attention will not produce results unless a reduction is first secured. Reduction can usually be secured by the nonoperative method, and where this is true, it it preferable to the open method, which is often unnecessarily selected. Perfect reduction and apposition is not essential in every case, to secure satisfactory functional results, but it requires much experience to determine when an incomplete reduction will suffice.

A diploma and license cannot alone qualify one to treat fractures of the femur. Likewise, a public reputation is useless. A sincere interest, special training and experience, are the prerequisites. There is no necessity for haste in making a reduction. Therefore, the unqualified or inexperienced practitioner has ample time in which to send his fracture cases from the remotest rural district to a competent surgeon.

When a physician undertakes the treatment of a fractured femur, there is an implied assurance to the patient that he will receive proper treatment and that the final results will be as good as could be obtained. If he accepts such a case unprepared to fulfill this pledge, he is guilty of malpractice, and should be held accountable. He does not deserve the protection of his professional colleagues. However, if he is forced to treat a fractured femur under unfavorable conditions, contrary to his wishes, through stubbornness of the patient or for other reasons, he should not be held accountable for bad results.

CONCLUSIONS.

(1) Many of the bad results following fracture of the femur are due to incompetent treatment.

(2) Better results may be secured by more care in selecting the surgeon.

ABSTRACT OF DISCUSSION.

Dr. W. B. Carroll, Dallas: Dr. Trigg's paper deals with the general scheme of handling fractures of the femur, and not the methods of treatment. In this regard I would like to emphasize the value of hospitalization. I would not say that all fractures should be sent to hospitals, nor even all fractures of the femur. It is obvious that if the surgeon can reduce his fracture and fix it so that he is sure it is remaining in position, as determined by measurement or *x*-ray, it is not necessary to send his patient to the hospital. Most fractures of the femur are not so simple, they require very close observation, *x*-ray pictures, and a technical detail that can be attended to successfully only in a hospital. If we would appreciate this fact, the results in fracture of the femur would be very much improved. At the present time the surgeon would not hesitate to recommend hospital treatment for an abdominal operation, and yet very much less equipment and skill is required for doing this work than for the treatment of fractured femurs.

Dr. J. H. Dorman, Dallas: I think one thing that has been overlooked is the use of plaster of Paris. To reduce a fractured femur and put plaster of Paris around it, and believe that it is going to stay in place, is like believing that two sticks will stay together in stovepipe. In the treatment of these fractures it is necessary to maintain extension until union has been established. In simple fracture, union sufficient to hold the fragments in place when extension is reduced, will take place in about ten days. I had the personal experience of taking care of fractured femurs in a base hospital for about two years, where there were about two thousand beds, and I would like to urge that plaster of Paris be forgotten when we are fixing broken femurs, the one exception being intra-capsular fractures. We used splints and extension with inclined plane, with excellent results.

Dr. G. D. Mahon, Dallas: There are those who treat fracture, even though they don't want to. One principle was evolved from our war experience, that I had not known much about before, although it may be old—the use of the Thomas splint in the uncomplicated fractures of the femur. The Thomas splint, as I have seen them, come in about three sizes, small, middle-sized and large. They are made so that traction can be easily made and the patient can be put to bed most anywhere. A hospital bed, as much as we might like it, is not necessary, and in the emergencies, where these people have to be treated, there are often no hospitals, where daily *x*-rays, and so forth, may be had. The Thomas splint, with the proper amount of traction, will ordinarily give a functioning leg.

Dr. C. F. Clayton, Fort Worth: I had something to say in defense of plaster of Paris, awhile ago. I want to dissent just a little from the two gentlemen who have spoken against it. When they make the unqualified assertion that plaster of Paris should never be used in fractures of the femur, they condemn the Whitman treatment of fractures of the femoral neck, which is generally recognized as the superior treatment for that condition. In my opinion plaster of Paris is indicated in certain cases where open reduction of fracture has been made. In acute fractures of the shaft of the femur, plaster of Paris should not be used. Following open reduction after nonunion or malunion, where swelling does not exist, it is a superior method of fixation.

Dr. Chase, Texarkana: Some say never use plaster for fractures of the femur, and some say it is the only thing for the fractures of the neck of the femur, using Whitman's method. As a matter of fact, fractures of the femur are not alike. There are transverse fractures without displacement that anybody can treat at any cross roads and get good results, and without risk of a malpractice suit if he does not. On the other hand, there are fractures, especially of the lower end of the femur, that are very difficult to treat; in fact, some of the sorest points in the practice of traumatic surgery we are connected with are fractures of the lower end of the femur. The physician who does his best, and uses the knowledge which the average physician in his community has, is certainly not subject to the charge of malpractice. On the other hand, there is a germ of truth in what Dr. Trigg says. If the most difficult fractures are sent to hospitals, where everything possible can be done for them, the best results will

follow. I am sure all of us want to do that if we can, but if we can't, we must do all that is in our power to do.

Dr. W. T. Dawe, Gonzales: I rise to say a word in defense of physicians who have to treat fractures occasionally, whether they want to or not. Much that the essayist has said is true, theoretically. It would be better, probably, if every fracture could be treated by an orthopedic surgeon who has the proper appliances and can give the patient the best of modern treatment. While this is true theoretically, it does not work out practically. The general practitioner frequently has to deal with patients who have not the necessary funds to enable them to go to an orthopedic surgeon or to a hospital. A majority of the general practitioners in the State of Texas today are competent physicians. They have learned many things by hard knocks, and are quite capable of handling the average case of fracture. The difficult and complicated cases should be referred to specialists.

It is a little bit dangerous in this day and time, when malpractice suits are springing up all over the country, for an accredited representative of the profession to take the position that physicians who undertake to treat these fractures are guilty of malpractice if they fail to get good results.

Dr. M. F. Bledsoe, Port Arthur: Fractures in the lower third of the femur are, in my opinion, the most difficult we have to deal with. I have seen some of the worst results growing out of them, because so many seem to overlook the dragging effect of the gastrocnemius muscle in exaggerating the overlapping when making extension. I think the inclined plane is the proper method of treatment, because if extension is increased in fractures low down, there is sure to be overlapping.

There are fractures that it is easy for anyone to overcome. On the other hand, there are fractures that are extremely difficult to treat. When I was a medical student in Chicago, there wasn't a prominent surgeon in the city who owned any property in his own name, because of the damage suits from fracture cases. Some of us may think that the subject of fractures is not very interesting, because of our enthusiasm for cutting, but it is a serious subject, and those of us who have done much fracture work have had results that we have not been proud of. The physician who tells me that he has never had any bad results in fracture work hasn't done much fracture work. We should not criticise our brother physician.

The strictures of Dr. Trigg are just and proper in some cases. The laity, unfortunately, believes that any doctor should get perfect results in fractures, regardless of the seriousness of the case, and that is manifestly impossible. It does not become any of us to criticise the general practitioner, who many times has obstacles and difficulties we know nothing about. I was very much impressed at one time by a lesson given an interne by Dr. Nicholas Senn. He showed a very bad fracture which a lumberjack had sustained, and asked, "What do you think about this fracture?" The interne said, "Well, he had a bum doctor." Dr. Senn replied, "Young man, don't criticise; that is a serious mistake." He then asked the patient how long after the fracture had occurred before he saw a doctor, and the lumberjack said, "Three weeks." He was isolated—snowbound, in a lumber camp and couldn't get to a doctor. The tendency to criticise is wrong.

Dr. Walter Shropshire, Yoakum: I want to say a word, first, as to the condemnation of the general practitioner, the man who goes out in the country and takes the whole of medicine on his shoulders and does his duty. I am one of them, and have been for more than a third of a century. I have set many thigh bones and never have had a damage suit. The idea that a man must be picked up and chased off to a hospital every time he gets a fracture, to some physician who presumes to be a specialist, is absurd. Who is a specialist on the formation of the femur? Every physician who comes from a medical college and passes our State Board, stands on an equal basis as to that. It is a question of tact to determine what damage is done, then to improvise means for curing that, and the country practitioner today, yesterday and for all the time that I have known medicine, has been able to do that with fairly good results. A review of damage suits for malpractice in fracture cases, discloses the fact that the majority of them are against the specialists.

As to the use of plaster of Paris, if the physician in the country, or in the city, as far as that is concerned, is at all capable, he can make an effective plaster splint. To make a plaster of Paris splint, one must take thick, moist plaster of Paris, extend the limb, get the proper apposition, and then draw it around the limb and hold it there long enough to set. If he will do that until it has hardened, he will have the best splint for that limb that could be made for it, because it fits every contour of the limb, and is firm and supports the muscles. It is a splint after a man's own heart, and the wholesale condemnation of plaster of Paris for that means I think is absolutely wrong. Of course, the practice of wrapping the limb around and around with plaster of Paris bandages is absurd. I make a flat surface of plaster of Paris, wet enough to give it plasticity, then reduce the fracture, hold it in position, fit the plaster to it, and hold it there until it has set. Plaster of Paris splints do not prohibit the use of extension. In fact, it facilitates it. Rational physicians use every means at hand to maintain apposition, including extension and what not—but let me repeat, a plaster of Paris splint made right, and applied right, is the best splint that can be placed on a fractured limb.

Dr. Trigg (closing): I think I could best close by reading the paper again, since evidently some missed my point. The object of the paper is to discourage the treatment of fractures of the femur by unqualified physicians and surgeons. The poor results obtained by the incompetent brings criticism upon the competent, and frequently results in malpractice suits. And I wish to remind the profession of its duty to prevent malpractice suits. The question naturally arises, "Who shall undertake the treatment of fractures of the femur?" In reply, I would say that no one should do so without proper *x*-ray facilities, and not then unless experienced. How are malpractice suits to be prevented? By prophylaxis. Satisfied patients do not sue, and anyone who can get good results need not be uneasy. Those who cannot expect to get good results should refuse to treat such cases.

DON'T HATE!

Don't hate your competitor, hate is expensive. Get acquainted with him. You may learn something. Don't knock your competitor. It sounds bad and is bad. Be a good sport. Play the game. If your competitor lies about you, or uses underhand methods to harm you, don't worry. He is cutting off his nose to spite his own face. He cannot fool all the people all the time. Straight business and good nature win out always in the long run. Your competitor will do you a great deal of good if you keep your eyes open. He will keep you from slumping. He will make you energetic, careful, more attentive to business, and altogether will be a good tonic for you, if you know how to use him.—Dr. Frank Crane, in *The Jour. Mich. State Med. Soc.*

SOME OBSERVATIONS ON BONE SURGERY.*

BY

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Surveying the whole field of medicine, there is no tract, parcel or lot—to complete the figure, that yields richer returns in good, and oftentimes brilliant results, for painstaking thought and an absolutely aseptic technic, than that of bone surgery. By way of a provocative, I shall give first some fracture "dope"—more or less original, which may be taken or left, as your judgment may warrant.

Don't promise too much in fracture cases. The lay mind often expects and demands perfect results regardless of difficulties and damages; and never criticize the fracture results of a brother physician—we never know under what difficulties he has labored. When we criticize, we may be sure that, "like chickens that come home to roost," the same is coming to us if we do any appreciable amount of fracture work. I have known eminent surgeons who refused to take fracture cases at all.

Never forget the relaxing effect of an anesthetic when there is great muscular spasm, or a rebellious dislocation to be reduced.

Don't fail to play return engagements in fracture cases. Nowhere in practice does the old adage, if at first you don't succeed, try try again, apply with such force.

Stay off plaster of Paris in fracture work, unless to fashion splints from it, or for use in joint cases, after some weeks have elapsed and there is need for support in ambulatory cases. A joint may be fitted more snugly and better support given, with this material, than with most any other appliance, but *never circle a limb with it*—and be happy. Plaster of Paris will cause palsies, atrophy and wasting of muscles, nerve irritations, stiffness about the joints with great prolongation of the period of restoraton to normal; but chiefly it prevents inspection of the parts, which I have found to be the "*condition sine qua non*" in good fracture work.

Never depend on the fluoroscope, unsupported by film or plate.

Splints should be loose and long, and the whole limb should be immobilized, which is the only virtue of any appliance. Any time casts, splints or other appliances are tight enough to force and jam fragments into apposition, more harm than good is being done. It is usually muscular traction tha prevents coaptation. What good will bon do if the muscles are squeezed to death?

I am safe in saying that I have treate over a hundred fractures with a little card board and a loose bandage, or sandbags an weights, with never a plaster or splint.

In cases of great injury to soft parts, rarely ever use any other support for tw weeks than sand bags and weights, if ther be much muscular dragging—I learned bette many years ago.

In fractures by direct violence, with grea extravasation of blood, the skin should b cleansed with scrupulous care, the accumula tion approached with a long needle of larg calibre, obliquely from untraumatized tissue and the blood withdrawn. This may permi an operation later for nonunion.

With the extravasation—which can only mean great violence to adjacent soft tissues there is a great outpouring of fibrous-connective-tissue cells, which, with the organized bloodclot, surrounding and getting between the fragments, means that the jig is up with bony union.

If the fracture is very painful, remember that there is something wrong, regardless of what the *x*-ray may show and the secureness of the appliance indicate. Get the traps off at once, turn the fracture loose for ten days or two weeks, and then, when definitive callus is being thrown out, it may be set and moulded to taste, as the cook-book recipes say.

Look in on fracture cases every day after two weeks have elapsed. This will entail much extra work, in a class of work very unremunerative, considering the grave responsibility it carries, but take it from me, it will return big dividends (not in money).

One may cut ureters and bury hysterectomy cases and it all blows over, but a nice "silver-fork" in a Colles fracture, like Banquo's ghost, constantly comes back to plague us; it is a traveling advertisement with reverse English. I have known real clever physicians all but ruined by one such case.

One winter afternoon there was hauled to my office in a wagon, a little bootblack who had what appeared on a cursory examination, a gunshot wound on the left arm, of such a serious nature as to necessitate shoulder-joint amputation. The biceps and coracobrachialis muscles were shot away, the humerus fractured in an oblique manner, and both elbow and shoulder joints were practically exposed. The patient was extremely prostrated from shock and hemorrhage, and normal saline was administered, subcutaneously, the instruments put on to sterilize and a brother physician summoned.

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 8, 1923.

Cleaning the field, I found, to my astonishment, that both the brachial artery and median nerve had escaped, although completely denuded of surrounding soft tissue for some five or six inches. I announced to the crowd of bystanders that there would be no amputation, that I would endeavor to save the boy's arm. A couple of Civil War veterans were outspoken in their disgust, remarking that the young doctor was a fool. Such an arm could not be saved. They had seen army surgeons amputate hundreds not so bad.

It was impossible to secure apposition because there was no outer or inner support, and because of the dragging of the unopposed triceps I would find the sharp end of the lower fragments sticking between the artery and nerve, or actually pushing out the brachial artery, and it occurred to me that the old "vets" had not been so far wrong after all in their estimate of my mental status.

I do not know whether or not my silver plates antedate those of Mr. Lane; I have never cared. The idea was purely original with me. I selected two thick, heavy, silver finger rings, cut and straightened them, and set screw-holes in either end. Having no suitable screws, I robbed two telephone boxes of the little screws that held in place the keyplates. I then got a dentist with his foot-engine, and with sterilized burrs drilled holes for my screws and set plates. They held the fragments in firm and perfect apposition, and after about eight months of daily care—for, of course, I got a low grade infection in the wound, and the expenditure of some two hundred dollars of my money for dressings, the little boy emerged with a perfectly sound and useful arm; and may I say it, ever so slyly, perhaps old Bledsoe was not *such* a fool, after all.

The direct financial returns in this case were negligible. I allowed the boy to pay me fifty dollars out of the nickles and dimes he earned blacking boots. My compensation came from a sort of chokey feeling about the throat, and a mistiness about the eye, when Charlie would come round, years afterward, exhibit his good left arm, tell me about his good job in a garage, his wife and three little nigger babies, and when he said, "I'm always telling dem little niggers what a good doctor Dr. Bludsaw is."

Some twenty years ago I was called into an adjoining county to see a gunshot wound with my friend, and a most ghastly wound it was, indeed. The chin and submaxillary region had been completely shot away, the tongue split, pierced and lacerated, and there were twigs, teeth, shattered bone, shot and gun-wadding, beneath the tongue and upon the esophagus, and the skin and soft tissues were hanging in many shreds and flaps. My first observation was the resemblance of the mouth to that of a large catfish, with its fins, gills and feelers. Cleaning out the debris, suturing the tongue and placing stitches about in the most promising looking flaps, I told my friend that if he would meet me early next morning we would see what we could do toward plastic and reconstructive work.

The problems in this case were manifold, but the chief one was to supply a scaffold of sufficient strength and permanency to maintain the fragments of the mandible in the same plane, which plane and position they would in nowise assume. Bone-ends would rise and fall on voluntary effort without any apparent synchronism. It was necessary to furnish a guide along which the new bone might propel itself, in the happy event such a thing were possible in the presence of constantly drooling saliva.

I had my jeweler friend construct a plate, by the use of which the mandible was reunited, giving the boy—now a man some 37 years of age—a functionally good mouth. When I last saw him, about a year after removing the plate, the cosmetic effect was, really, not so bad.

In this case I made my screw holes with an ordinary gimlet, and ruined a perfectly good bone chisel in driving them home. Trimming, loosening, cutting and adjusting skin and deeper tissues in various angles and attitudes, I fashioned the best mouth possible, with the very scanty material at my disposal, and I was truly astonished and delighted that the case turned out as well as it did.

Speaking of fees, reminds me of seven cases of brain surgery that got well in spite of the responsible accidents and the attending doctor, for the services in which I received the munificent sum of $14.50. One was a depressed fracture with hernia cerebrii, done in a negro-shack, a locomotive fireman giving the anesthetic and my instruments boiled in a tomato can. The patient, after recovery, was very appreciative and paid me $4.50. He then disappeared. Then a series of five—bums, hoboes, negroes, etc., three in my office and two in negro cabins, for none of which I received a thank you. The last case, a depressed fracture, with clot beneath the dura, was operated upon in a negro cabin, about midnight, the light being furnished by a small brass lamp. These negroes were unusually appreciative, for they paid me $10.00 on the spot. A doctor makes his money easy.

Two young negro women having a considerable cargo of beer or other alcoholic liquid aboard, acquired a horse and were proceeding on a joyride, man-fashion, about the streets

one moonlight night; as they were rather boisterous and hilarious, it occurred to some of the boys that here was a fine opportunity for some fun; accordingly, they bestowed a liberal amount of "high-life" upon the hips, hocks and flanks of the ambling palfrey, whereupon this staid and sedate livery horse became immediately rejuvenated, as though he were the recipient of recently engrafted monkey glands, developed an ambition to scale brick walls and climb telephone poles, with the result that the hindmost wench was precipitated, with more or less violence, upon a concrete sidewalk, sustaining a fracture of the middle of the left femur. There was a shortening of three or more inches, very slight crepitation, if any, and motion between the fragments was limited to a rocking on lifting the upper and lower portions of thigh in different planes. There was very little pain, which I attributed to intoxication.

The shortening remained, despite my best efforts. I had two negro men grasp the shoulders, one the upper part of the thigh and three working in relays on the leg, while I manipulated the site of the fracture. Our combined efforts failed to overcome the shortening. The next morning the patient was profoundly anesthetized, and some five or six men, working under my direction, labored diligently for forty minutes, in a vain effort to overcome the shortening. Despite antisyphilitics, tonics, pulling, hauling and hammering at various times, when I was not too busy with something else, I had, as at first, no callus, a rocking motion and three or four inches shortening. It might be thought that this case could have been cleared up by the *x*-ray of today, but it is very doubtful if the true condition would have been revealed by the best of roentgenograms. I had a good van Houten Tenbroock static machine which would do real good work on bones, bullets, etc., and I could see several pieces of detached bone along the outer aspect of the femur; but the bone shadow, as a whole, was continuous throughout, with no solution of continuity whatever.

I boiled up my tools one morning and went into that leg. The femur had fractured obliquely, and several fragments of bone had become completely detached, and a cone-shaped fragment had been wedged and jammed into the medullary canal below in such a way that the devil himself could not have budged it; that is, I was unable to do so, with my hammer, levers and plenty of assistants. I had to saw off the upper fragment, retract the upper thigh from the field, and then force the cone-shaped fragment from the medullary canal, after having chiseled out the wedged portion. I then sawed off a small portion of the lower fragment to give a square joint, and in a reasonable time Hattie had a good, useful leg, although it was some five inches shorter than its fellow. But to cap it all, her white lover refused to pay me. He said, "Doc, you shore done a bum job on pore ole Hattie's leg. It is five inches shorter than the other one, and she has to limp when she walks." In about two weeks he married a white woman, so poor old Hattie and I both got left out. Can you beat it?

A short time after I had seen the World War through, and like Cincinnatus of old had returned to peaceful pursuits once more, "Red's" mamma brought him to my office for a painful condition of the left heel, with the very meager history that something like a week before he had fallen, while playing football, and slightly hurt his knee; or else had stuck a piece of glass in the heel sometime before, which she had failed to entirely remove.

The next day Red developed a fever, and the pain in the heel was much more pronounced, so much so that I cut down to the os calcis, under local anesthesia, but no pus was found—neither was there any glass. A white blood count at this time showed about 11,000, with 82 per cent polys. The following day the pain shifted, rather indefinitely localizing itself about the left knee. The temperature was 101.3° F., and because of the injury to the knee, I made a hard and fast diagnosis of osteo-myelitis, and insisted on getting into that femur at once. This treatment was entirely too radical for the parents, who requested consultation. The consultant, being a roentgenologist, wanted plates, films, etc. Red was removed to the hospital. Of course, the plates did not show anything, and they never will in this early stage. My diagnosis was accorded scant respect by the consultant. A second blood count revealed a leucocytosis of 18,000, with 87 per cent polys. This was enough for me, and after much beseeching I gained the parents' consent to go into the leg, under gas. My first incision was along the outer condylar ridge. I encountered no pus there, after getting beneath the periosteum, so I quickly incised along the inner side, but still no pus. The consultant was thoroughly enjoying himself by this time. I was determined to find the pus, so I asked him to hold up the thigh in order that I might go into the popliteal space. This procedure he seriously objected to, on the ground that I would sever one of the arteries and find no pus, either. I explained that I was solely and entirely responsible; that I would arrest the hemorrhage, if any, and that anyhow, that was preferable to losing the boy's leg,

if not his life. I reached the bone in one bold stroke, stuck my chisel into the cancellous bone, and the pus came. I was one *greatly* relieved doctor about that time.

The wound discharged some pus, but not enough to suit me, so a couple of nights later, I went in again, under ether, and chiseled out quite an opening. I was greeted by a furious hemorrhage, and had to pack tightly to stop it. Red was very ill and quite weak from loss of blood, necessitating the administration of normal saline. He seemed quite septic, in spite of fairly free drainage, so I went in again at the end of about a week, but did not seem to improve matters to any marked degree. After an interval of four days, I went in again, enlarging my original incisions along the condylar ridges and entering the medullary canal from both sides with a bone drill. Nothing but blood was encountered, and I believe now that my last two openings were entirely unnecessary. Red's leg, if not his life, had been saved by the first two operations.

I had feared that we would have a separation of the lower end of the shaft of the femur, with shortening, ankylosis and a mess generally. Evidently I had wrought better than I knew, for when Red did make a start toward recovery, he came with one of his typical football rushes, that soon put him over the goal. Several spiculae of bone discharged, at intervals, and a freakish metastasis showed up in the tuberosity of the right ischium, about six weeks after all drainage had ceased from the popliteal space. This was cut down on, under local anesthesia, but it continued to bedevil us for some months, until I went after it with a bone curette, and removed a small piece of necrosed bone. Thus ended Red's case of osteo-myelitis.

Osteo-myelitis is one of the most serious infections with which we have to contend. Its ravages are most pitiable. If we are to be of any assistance in such cases, we must recognize them within the first 72 hours and act with the utmost boldness. As in appendicitis when there is suppuration, so it is in osteo-myelitis when pus has burrowed beneath the periosteum.

Don't assume that all cases of arthritis are rheumatism. Take a most careful history. Look for an injury, especially in children of 'teen age. When there is such a history, backed by 16,000 to 20,000 white blood corpuscles, and frequently, after a chill, 25,000 or more, and a differential of 85 per cent polys, clean the skin, sterilize any old sort of knife, and an ordinary gimlet—if there is nothing better, and get into that medullary canal at once; what difference if there is no pus, and an error has been made. It is a thousand times better to make a hundred such errors, than to overlook one case of osteo-myelitis, with consequent loss of life or limb.

The vision I wish to conjure is that of the small town doctor—the country doctor, surrounded by the most adverse circumstances and conditions. With determination and a liberal use of what little gray-matter the good Lord may have provided him with, he is, and will be, able to get fairly good results, even outside of a hospital, and with very meager equipment. "As a man thinketh in his heart, so is he." Self-reliance, mixed with a little brains, is the very greatest of all a doctor's assets.

MISCELLANEOUS

EX-PRESIDENTS OF THE TEXAS MEDICAL SOCIETY.

In the June issue of the TEXAS STATE JOURNAL OF MEDICINE a group picture of twenty-three ex-Presidents of the State Society is published. There was one absentee. These men have formed an organization and meet at luncheon during the annual session of the State Society. The combined ages of the ex-Presidents is 1,425 years, which makes an average of 62 years. The average years of practice of the members of the group is 37½ years. Most of them are actively interested in the affairs of the State Society. Dr. Arthur Carroll Scott, the present President, is the fifth-sixth. The presidency of the Texas State Medical Society must be conducive to longevity. It would be interesting to know whether this large group of ex-presidents exceeds the number of living ex-Presidents in the other states. We congratulate the State Medical Society on having so many capable counselors.—*Boston Med. and Surg. Jour.*

EYE, EAR, NOSE AND THROAT SECTION NOTICE.

We are requested by the officers of the section on Ophthalmology, Otology, Rhinology and Laryngology, to publish the following communication:

"Acting upon the advice of the Scientific Committee of the State Medical Association, following a conference of that committee with the officers of scientific sections, contributions to the scientific program of the Section on Ophthalmology, Otology, Rhinology and Laryngology, are hereby solicited. The following requirements have been agreed upon and must be met:

(a) Preliminary draft of proposed contribution to be submitted to the secretary of the section, in duplicate.

(b) From contributions thus submitted, the section officers, in conjunction with the Committee on Scientific Work, will compile the best program possible.

(c) Papers not accepted for the program will be returned to their respective authors. It will be understood that failure to accept a paper is in no way a criticism of said paper. The assumption will be that it simply has not fit into the program outlined for the section.

(d) Papers accepted for the program will be returned to their respective authors for finishing touches.

(e) Accepted contributions must be read before county medical societies, or in the instance a county

society is not available, a district society, and certificate of that fact furnished the section secretary by the secretary of such organization.

(f) The program will be closed March 15.

(g) The program will be limited to 20 papers."

Interested parties should correspond with Dr. W. D. Jones, 702 Medical Arts Bldg., Dallas, chairman of the section, or Dr. C. P. Schenck, 303 Texas National Bank Bldg., Fort Worth, secretary.

LOBAR PNEUMONIA COMPLICATING INDUCED PNEUMOTHORAX.

To two cases of lobar pneumonia involving the uncollapsed lung in the course of a therapeutic pneumothorax, and five cases of bronchopneumonia, Clough Turrill Burnett, Denver (*Journal A. M. A.*, July 21, 1923), adds one case. A point of interest is the effect of this intercurrent infection on the bronchiectasis. Prior to the pneumonia, the patient was free from foul sputum as long as the lung was maintained in complete collapse; but if it was allowed to re-expand even slightly, the odor was again apparent. This disappeared again with complete collapse. While the treatment was of necessity discontinued for a time, the long interval being forty-seven days during the pneumonia as compared to an average of two weeks before, it was found that, following the pneumonia, while sputum appeared in increasing amounts immediately following the pneumothorax operations, the foul odor has at no time been noted. The patient has entirely recovered from the recent infection, and is continuing the pneumothorax in the hope of obtaining at least a partial relief from the bronchiectasis.

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES.

New Tuberculin B. E. Dried.—To obtain this product, tubercle bacilli are dried, ground for several months in a ball mill, the finely disintegrated bacillary bodies are mixed with a suitable base and made into tablets. Each tablet represents a definite amount of New Tuberculin B. E. Dried.

Tablets Tuberculin B. E.-P. D. & Co.—New Tuberculin B. E. Dried, marketed in vials No. 1 of ten tablets, each tablet containing 0.0001 mg.; in vials No. 2 of ten tablets, each tablet containing 0.001 mg.; in vials No. 3 of ten tablets, each tablet containing 0.01 mg.; in vials No. 4 of ten tablets, each tablet containing 0.1 mg.; in vials No. 5 of ten tablets, each tablet containing 1 mg.; also marketed in packages of 5 vials, Nos. 1, 2, 3, 4 and 5, inclusive. Parke, Davis & Co., Detroit.

New Tuberculin T. R. Dried.—The mass culture of tubercle bacteria is washed repeatedly, agitated again in water, washed, ground to complete disintegration, extracted repeatedly with water, and the water insoluble material, instead of being ground to form a suspension in water as in New Tuberculin T. R. Liquid, is dried. The dried material is thoroughly mixed with a suitable diluent. Each tablet represents a definite amount of dried tubercle bacilli.

Sal-Ethyl.—A brand of ethylsalicylate—N. N. R. For a discussion of the actions, uses and dosage of ethyl salicylate, see New and Nonofficial Remedies, 1923, p. 272. Sal-Ethyl is supplied in the form of Sal-Ethyl Capsules, 5 minims. Parke, Davis & Co., Detroit.—*Jour. A. M. A.*, October 13, 1923.

Tablets Tuberculin T. R.-P. D. & Co.—New Tuberculin T. R. Dried, marketed in vials No. 1 of ten tablets, each tablet containing 0.0001 mg.; in vials No. 2 of ten tablets, each tablet containing 0.001 mg.; in vials No. 3 of ten tablets, each tablet containing 0.01 mg.; in vials No. 4 of ten tablets, each tablet containing 0.1 mg.; in vials No. 5 of ten tablets, each tablet containing 1 mg.; also marketed in packages of five vials, Nos. 1, 2, 3, 4 and 5, inclusive. Parke, Davis & Co., Detroit.—*Jour. A. M. A.*, October 6, 1923.

Antidysenteric Serum-P. D. & Co.—An antidysenteric serum (see New and Nonofficial Remedies, 1923, p. 287) obtained from horses immunized against several strains of Shiga and Flexner types of dysentery bacilli. It is marketed in packages of one syringe containing 10 cc.; in packages of one vial containing 20 cc. Parke Davis & Co., Detroit.—*Jour. A. M. A.*, October 20, 1923.

Cheplin's B. Acidophilus Milk.—A milk culture of bacillus acidophilus, containing not less than fifty million of viable B. acidophilus per cc. at the time of sale. For a discussion of the actions and uses of bacillus acidophilus milk, see Lactic Acid-Producing Organisms and Preparations (*Jour. A. M. A.*, September 8, 1923, p. 831). For adults the dose is from 500 cc. to 1,000 cc. Cheplin's B. Acidophilus Milk is marketed in bottles containing respectively 200 cc and 400 cc. Cheplin Biological Laboratories, Inc. Syracuse, N. Y.

Diphtheria Antitoxin Standard (Purified and Concentrated Globulin.)—Formerly marketed as diphtheria antitoxin concentrated (globulin), (see New and Nonofficial Remedies, 1923, p. 283). This brand of diphtheria antitoxin concentrated is also marketed in packages of one syringe containing 20,000 units. H. K. Mulford Company, Philadelphia.

Diphtheria Antitoxin Superconcentrated. — The product resembles serum antidiphthericum purificatum U. S. P. It differs in that the volume per thousand units is smaller, and the protein content is claimed to be lower. It is marketed in packages of one syringe containing respectively 1,000 units, 3,000 units, 5,000 units, 10,000 units and 20,000 units. H. K. Mulford Co., Philadelphia.

Protein Extracts Diagnostic-P. D. & Co.—In addition to the Protein Extracts Diagnostic-P. D. & Co. listed in *The Journal*, September 15, 1923, p. 929, the following have been accepted: Colon Bacillus Protein Extract Diagnostic-P. D. & Co.; Gonococcus Protein Extract Diagnostic-P. D. & Co.; Micrococcus Catarrhalis Protein Extract Diagnostic-P. D. & Co.; Pneumococcus, Type I, Protein Extract Diagnostic-P. D. & Co.; Pneumococcus, Type II, Protein Extract Diagnostic-P. D. & Co.; Pneumococcus, Type III, Protein Extract Diagnostic-P. D. & Co.; Pseudodiphtheria Bacillus Protein Extract Diagnostic-P. D. & Co.; Staphylococcus Albus Protein Extract Diagnostic-P. D. & Co.; Staphylococcus Aureus Protein Extract Diagnostic-P. D. & Co.; Staphylococcus Citreus Protein Extract Diagnostic-P. D. & Co.; Typhoid Bacillus Protein Extract Diagnostic-P. D. & Co. Parke, Davis & Co., Detroit.

Diphtheria Toxin-Antitoxin Mixture (0.1 L+) Lederle.—This product (see New and Nonofficial Remedies, 1923, p. 284) is also marketed in 30 cc vials. Lederle Antitoxin Laboratories, New York.—*Jour. A. M. A.*, October 27, 1923.

PROPAGANDA FOR REFORM.

J. T. Ainslie Walker's Latest Intestinal Disinfectant.—About a year ago, a flood of reprints mailed from London reached the editors of American medical journals and others. The reprint dealt with "A New Suggestion in the Treatment of Puerperal Eclampsia," by Captain J. T. Ainslie Walker. The reprint was to the effect that as "the problem of intestinal disinfection has been solved," rational treatment of the condition was greatly simplified, but it was not stated how the problem of intestinal disinfection had

been solved. A few months later, the same editors received reprints which dealt with "Dimol" in the treatment of summer diarrhea in infants, and an article by A. N. M. Davidson. Still more recently, American medical editors have received a pamphlet mailed from England which purports to be a book sent for review. This pamphlet is an obvious puff for Dimol by J. T. Ainslie Walker. Dimol is a preparation introduced by J. T. Ainslie Walker of England, and is sold in this country by the Anglo-French Drug Co. Some time ago Mr. Walker was connected with the Barrett Manufacturing Co. to exploit "Pyxol," a proprietary disinfectant resembling compound solution of cresol. Later, Mr. Walker introduced his first "intestinal germicide" under the proprietary name "Trimethol." This preparation, which was reported on unfavorably by the Council on Pharmacy and Chemistry, appears to have been very similar to the product now exploited as Dimol. Mr. Walker would have us believe they are different, but the American agents of Dimol makes this claim: "Dimol is the registered name for the product known in the U. S. A. in 1914 under the name "Trimethol." —*Jour. A. M. A.*, October 6, 1923.

Colorless Iodin Preparations.—The so-called colorless iodin preparations do not contain iodin in the free state, but some form of combined iodin, chiefly iodid. For instance, Tinctura iodi Decolorata, N. F., is a solution of sodium iodid and ammonia iodid obtained by mixing iodin and sodium thiosulphate, stronger ammonia water and alcohol. When tincture of iodin is used externally, it is with the view of obtaining the therapeutic action of free iodin. Since the colorless iodin preparations do not contain free iodin, their external use as a substitute for tincture of iodin is irrational. When tincture of iodin is given internally, the free iodin contained in it is converted into iodid before absorption. Therefore, tincture of iodin and the so-called colorless iodin preparations given internally have essentially the same therapeutic effect. However, if a colorless iodin preparation is to be administered, it would be simpler and more rational to administer sodium iodid.—*Jour. A. M. A.*, October 20, 1923.

More Misbranded Nostrums.—The following products have been the subject of prosecution by the Federal authorities charged with the enforcement of the Food and Drugs Act: Fisher's Uterine Tonic (Fisheropathic College Association), containing ammonia, traces of ammonium salts, including iodid and carbonate, vegetable extractives, glycerin and water. Fisher's Kidney Food (Fisheropathic College Association), containing a small quantity of vegetable extractives, citric acid, sugar, alcohol and water. San-Yak (Burnham Medical Co.), composed essentially of alcohol 7.0 per cent., plant extracts, including cinchona and a laxative drug, 2.4 per cent. and water 92.0 per cent. Plough's Prescription C-2223 (Plough Chemical Co.), consisting essentially of potassium iodid, extracts of plant drugs, including colchicum, a trace of salicylic acid, glycerin, alcohol and anise flavoring. Chicawampa Tea (Chicawampa Tea Co.), consisting essentially of cut herbs, principally the Ephedra nevadensis (known locally as "Caynote" or "Canutlio") with small proportions of peppermint and sage.—*Jour. A. M. A.*, October 20, 1923.

NEWS

American Association for the Study of Goiter, composed of goiter surgeons, pathologists, anaesthetists, internists and radiologists, will hold its annual meeting in Bloomington, Illinois, January 23-25, 1924.

The program will not be complete until about December 17. However, an excellent program of papers, demonstrations and diagnostic and operative clinics, is promised.

Health Officials Go to Mexico.—State Health Officer W. H. Beazley and other representatives of the Texas State Health Department went to Mexico City recently to confer with a committee of Mexican officials on plans to prevent smuggling of narcotics across the Texas-Mexican border.—*Dallas News.*

Dr. Carrie Weaver Smith, superintendent of the Girls' Training School at Gainesville, has been given ten months' leave, without pay, and Miss Cora Goodwin of Denton, has been named as acting superintendent in the interim. Dr. Smith will take advance work at the Boston Psycopathic Hospital. She has been superintendent of the training school for some years. —*Dallas News.*

The San Angelo Nurses' Training School will be operated in connection with the new San Angelo Hospital, to be opened soon by Drs. H. P. Rush and W. F. Chambers. A charter has been obtained for the nursing training school by the local hospital. The teaching staff of the school will be composed of San Angelo physicians, and Miss Sadie Johnson, recently graduated from St. John's Sanitarium, will be the superintendent of nurses. The superintendent of the hospital will be Mrs. J. B. Whitley.—*Dallas News.*

The Thompson Sanatorium, at Kerrville, is being improved and its service extended by the addition of a new building, which will be completed and ready for occupancy in April, 1924. The building will be 240 feet by 190 feet, and two stories high. The construction is of concrete and considered fire-proof. The equipment will be modern in every particular. The capacity of the institution will be increased by forty-five beds, additional kitchen, sterilizing room, refrigerator room, storage room, dining and living rooms, offices and *x*-ray and pathological laboratories. There will be a large sun parlor in the new addition.

American Journal of Roentgenology and Radium Therapy, the official organ of The American Roentgen Ray Society and the American Radium Society, will appear in enlarged form in 1924, the increased pages being given to more illustrations, more abstracts and more original articles. Dr. A. C. Christie, who was colonel in charge of roentgenology in the U. S. Army during the war, will be the editor. Drs. James T. Case, H. K. Pancoast and W. Duane, will be the associate editors, with a large collaborating staff of the leading roentgenologists in the country. The subscription price is $10.00. The *Journal* will be published, as formerly, by Paul B. Hoeber, Inc., New York.

The Kansas City Fall Clinics, October 8-13, 1923, were attended by approximately 1,500 registrants from the following states: Nebraska, Colorado, Kansas, Oklahoma, Texas, Arkansas and Missouri. The clinics had been extensively advertised in the immediately surrounding states, and every effort was made by the local profession to assemble teachers and material worthy of the consideration of those who should attend. There were clinics in eleven city hospitals, and round-table luncheons, held separately by the different branches of medicine, each day at noon. There was a large commercial exhibit on the floor of the Convention Hall, which attracted much attention. The dinners of the various medical groups and alumni, were interesting and well attended. The clinics were pronounced by many as the biggest event of its kind ever occurring in the southwest. It is anticipated that the clinics for 1924 will be still more successful. The Kansas City Clinical Society thanks the profession of the southwest for its cooperation, and invites a return engagement.

Federal Leper Home, New Orleans.—Costs of construction have increased 20 per cent in Louisiana since last spring, when Congress provided $650,000 for the construction of additional buildings at Carville, Louisiana. The funds, therefore, are sufficient only for the erection of 17 cottages, housing 12 lepers each, together with a dining room and kitchen building and additional power plants, water supply and sewage disposal units. The infirmary needed for treatment of the blind and crippled must await further appropriations.

There are now 174 lepers at Carville, every bed being filled, the inmates including men and women from nearly every state in the Union. The new buildings authorized will add 204 additional beds, which will be immediately utilized, since there is a waiting list of more than 100 who wish to enter the institution and many other lepers in the United States, aggregating, it is believed, more than 1,000, whom it is desired to segregate as soon as facilities can be provided. One-fourth of the inmates at Carville are totally blind from the disease, and the mutilations, especially of the hands and feet, resulting from the disease are such as to remind one forcibly of Biblical descriptions.

The new construction, which will be immediately undertaken, will probably require several months for completion.

Texas Association of Sanitarians was organized during the period of the special school for sanitarians recently conducted by the State Board of Health, at Austin. It is a permanent organization and has for its purpose the betterment of the service rendered by public health workers, through whatever agency. Membership is open to all who are engaged in health work, whether physicians, sanitary engineers or whatever profession, including inspectors of food, dairies, sanitation, physical inspection, public health nursing and the like. The organization will promote health institutes and schools, such as that recently held at Austin, and will attempt to supply speakers on health problems and sanitation wherever required, and will actively co-operate with the State Board of Health, county and municipal health boards, and voluntary health organizations, wherever possible. The following officers were elected: President, Dr. A. H. Flickwir, Houston; first vice-president, Mr. George Anderson, sanitary engineer, Cotton Belt R. R.; second vice-president, Professor W. A. Buice, Department of Public Health and Hygiene, Baylor University (Waco); third vice-president, Mr. George Proper, El Paso; fourth vice-president, Miss Z. T. Cunningham, dairy and food inspector, Sherman; secretary, Mr. E. G. Eggert, Assistant State Sanitary Engineer, Austin. An executive committee will be appointed by the president. For the present there are no dues.

Prizes for Complete Community Health Service.—An important co-operative enterprise of the U. S. Public Health Service is the establishment of a joint office with the American Public Health Association, where health officers and others can obtain the latest scientific information on municipal health department practice. The American Public Health Association has had a committee for three years studying this subject. The work of the committee was generously financed by the Metropolitan Life Insurance Company, and the U. S. Public Health Service has set its official seal of approval on its work by co-operating in these studies and publishing, through the Government Printing Office, the committee's complete report. This report is the record of a survey, begun in 1920, of health department practices in eighty-three of the largest cities of the country. The results of the survey are summarized in the publication and constitute a manual of public health procedure of incalculable merit.

The establishment of an office of administrative public health in Baltimore, under the direction of Surgeon Paul Preble, is the next step in its scheme of co-operation. Here information already obtained by the committee will be placed on file and will be kept up to date as Dr. Watson S. Rankin, the committee's field secretary, conducts additional research. Dr. Rankin's time will be spent in the field visiting cities for the purpose of assisting such as desire his services in organizing various branches of health work. The data in the Baltimore office and Dr. Rankin's services, will be available at all times to any city that wants guidance. A system of grading cities as to their effectiveness in health work will be devised, as a basis for determining the three cities that are to be awarded prizes for the most complete community health service. The awards are offered by the American Public Health Association, and will be presented at its fifty-third annual meeting in Detroit, in 1924.

SOCIETY NEWS

Bexar County Medical Society met October 18, with 58 members and 10 visitors present.

An ordinance bearing on the traffic problems of San Antonio and with the following rules pertaining to the vehicles of physicians, was approved and a vote of thanks extended the city officials for their consideration:

"It shall be unlawful for any vehicle, except a vehicle actually in use by a doctor on an emergency call, and away from his office, to park for a longer period than one hour between the hours of 8 a. m. and 7 p. m., on certain streets within the business district of the city, as follows, to-wit: on Avenue D between Houston and Travis Streets; on Avenue C between Houston and Third; on Jefferson Street between Houston and Travis Street; on Loyosa Street between Commerce and Houston Streets; on Navarro Street between Market and Travis Streets; on St. Mary's Street between Market and Travis Streets; on Soledad Street between Commerce and Travis Streets; on Presa Street between Market and Houston Streets, and on the west side of Alamo Plaza between Houston and Commerce Streets; and in case of a vehicle actually in use by a doctor away from his office on an emergency call, said vehicle shall not remain parked within these limits for any longer time than same is actually in use by said doctor upon such call."

Following the report of a committee appointed for the purpose of investigating the activities of the so-called White Cross Association, the society endorsed that organization and approved a proposed antidope week in support of the movement fostered by it. It is the purpose of this organization to correct the "dope" evil, as far as it is possible to do so.

Dr. W. E. Nesbit discussed insulin, beginning with the manufacturing problems involved and covering its physiological action and use in diabetes. He said that immediately following injection of insulin, there is an increase of carbohydrate metabolism, and the blood sugar is lowered, in direct proportion to the amount given. The diet is most important in connection with insulin treatment. An overdose of the drug may be easily given if the diet is not carefully directed. Probably 80 per cent of cases of diabetes can be handled to advantage without insulin. The 20 per cent requiring insulin is made up mainly of children. The normal, steady blood sugar will allow the pancreas to recover its function, if recovery is possible. The most serious accident of an overdose is hypoglycemia. The symptoms of overdosage are anxiety, cold sweat, rapid pulse and collapse. Adrenalin administered hypodermatically and followed

by glucose ingestion, will relieve the situation. The adrenalin places the glucose at the disposition of the blood. Insulin relieves coma rather dramatically. When under the treatment of insulin, diabetics may be operated upon as well as nondiabetics. The speaker considers insulin the greatest blessing the medical profession has given to the public.

Dr. Malone Duggan called attention to the tables covering dosage that have been prepared by observers, and urged their use in connection in the treatment of diabetes with insulin.

Major J. H. Tinder, of the army hospital at Fort Sam Houston, on a question of personal privilege, stated that he knew nothing of the article appearing in a San Antonio paper pertaining to his treatment of tonsils by the *x*-ray.

The application for membership of Dr. Paul Osterhout was referred to the board of censors.

Drs. J. B. Martin, Thomas Sharp, Edwin L. Mueller and Omar Roan were elected to membership upon application.

Dr. Joe H. Shelton was admitted to membership upon transfer from the McLennan County Medical Society.

Bexar County Medical Society met October 25, with 40 members and three visitors present.

A questionnaire from the Express Publishing Company in regard to illegal operations in San Antonio, was referred to the legislative committee for attention.

In view of the impending removal from the city of Dr. Malone Duggan, a brief testimonial meeting was held, which was addressed by Drs. W. B. Russ and I. L. McGlasson, who, together, cited Dr. Duggan's service to the medical profession and the Bexar County Medical Society during the eighteen years of his residence in San Antonio. The tribute to Dr. Duggan was heartily made and highly appreciated by the society. Dr. Duggan is a graduate of the University of Texas, Class of 1894. He is a past president of the Bexar County Medical Society, and one of the organizers and the first president of the Fifth District Medical Society. He has been a Reserve Officer in the Medical Corps of the Army since 1898, and was in active service on the Mexican Border, and again during the World War. He was decorated for bravery at the front, while serving as Regimental Surgeon of the 11th Field Artillery, at the time attached to the 39th Division. Letters from his Regimental and Brigade Commanders, complimentary in the extreme, were read to the society. These letters stressed the fact that Dr. Duggan was humanly tender, and at all times exhibited towards his fellow soldiers good fellowship in the extreme. It was stated that Dr. Duggan had exerted a profound influence on the society and its membership from a scientific standpoint. He had been the prime promoter and organizer of the round table study clubs of the society, which clubs have proven popular and profitable. He has been in the forefront of the battle lines of the society in all contact with the quack and faker, and has exerted his influence at all times to bring the profession into good repute in the public mind. His work will go on during his absence and his efforts will continue to bear fruit. A handsome traveling bag was presented to Dr. Duggan as an evidence of appreciation of his services to the society and the friendship the members of the society feel for him.

Dr. Irving T. Cutter read a paper on "The Sociological Responsibility of Those Practicing Obstetrics." The author pointed out that according to statistics of the registration area of the United States (about two-thirds of the country), there are 20,000 maternal deaths and 450,000 stillbirths, or deaths soon after birth, per annum. Many of these deaths are due to sepsis, and some of them are unavoidable, but the author believes the majority are preventable. The statistics do not disclose the number of babies crippled for life as the result of poor obstetrics. The value of prenatal care was stressed. Many of the dangers in childbirth may be obviated by a knowledge on the part of the mother of unfavorable symptoms. There is much bad obstetrics practiced, and very largely because graduates in medicine are not given sufficient practical training. The schools giving adequate training in obstetrics are very few and far between.

Dr. Homer T. Wilson, discussing the paper, said that the obstetrician has the greatest sociological duty of any other group of the medical profession. He took exception to the statement of the author that medical colleges do not teach obstetrics adequately, and held instead that most of the fault was due to the disinclination of the student to go into obstetrics or to consider it as a possible specialty. Dr. Wilson thought that the medical profession could educate the public to depend upon qualified obstetricians best by lowering the maternal death rate.

Dr. Duggan pointed out that from a sociological standpoint the cost of babies was a consideration. High fees might prove a deterring factor.

Dr. W. B. Russ thought that the question of educating the public as to the value of good obstetrics was paramount. Every business in the commercial world spends money to educate the public and bring their several enterprises to the favorable consideration of the people. The medical profession ignores this modern, fundamental principle.

Dr. C. C. Cade read a paper on "Pyelitis in Pregnancy." The author stated that pyelitis occurs nine times as frequently in women as in men. The bacteria causing the disease may come from the tonsils, teeth, leucorrhea, appendicitis and cholecystitis. The bacillus coli is found nine times as frequently as the staphylococcus. The attack is usually precipitated by an obstruction of the ureter. This probably accounts for its frequency in pregnancy, the uterus pressing against the ureter. The gravid uterus is most commonly in the right side and the disease is most commonly on that side. There is a blood stasis in the kidney, and because of the extra load placed on the kidney by the pregnancy, there is some destruction of the parenchyma of the kidney, furnishing suitable situations for the development of nephritis or pyelitis. In pyelitis occurring near term, the speaker thought it best to produce early labor.

Discussing the paper, Dr. J. M. Venable said that the treatment of pyelitis was simpler now than in former years, when nephrotomy, nephrectomy and abortion, were the principal methods used. One theory explaining the preponderance of right side infection, is that the right renal fossa is shallower than the left, and allows the kidney to drop. Another idea is that the cecum, being movable, drags on the kidney. He thinks that stasis is the main factor in the cause of pyelitis, and not a hematogenous infection. Analysis of the catheterized specimen gives the only accurate data as to the causative infection. Lavage is the treatment par excellence, especially when the patient does not respond to forced fluids, rigorous dieting and the usual medications by mouth.

Dr. H. McC. Johnson called attention to the experimental work of David and McGill in Rush Medical College, that fifty per cent of the dogs experimented upon show bacilli in the mesenteric glands, and of these bacillus coli is found in 33 per cent. The experimenters were trying to develop the reason for the colon bacillus in the kidney. Many cases believed to have been cured are chronically infected. It is impossible to entirely eradicate the infection in many cases.

Dr. Cutter called attention to the fact that frequently the ureter is entirely blocked, which may

prevent the escape of bacteria into the urine. It is sometimes necessary to examine several catheterized specimens before diagnosis is made. It takes but 10 mm. of mercury pressure to block the ureter.

Dr. L. B. Jackson was of the opinion that the colon bacillus is the least harmful of the bacteria that are found in pyelitis. Bacteria are common in the urine of pregnant women. He has been successful in the use of autogenous vaccines in pyelitis.

Dr. R. A. Goeth called attention to the value of neutral acriflavine in the treatment of these conditions, urging the use of enteric-coated preparations for the purpose.

Dr. G. A. Grimland stated that he had not been able to demonstrate the bacteria in catheterized specimens of urine following lavage, in cases which he had treated with autogenous vaccines, whereas in similar cases without the vaccines bacteria are always demonstrable in the urine. He uses a vaccine made from the colon bacillus, the streptococcus and staphylococcus.

A circular letter to the employees of a mercantile establishment in San Antonio, from two local chiropractors, was read to the society and referred to the legislative committee. The letter was so framed as to lead the employee addressed to conclude that his employers had decided that he needed chiropractic treatment.

Dallas County Medical Society met October 25, with 33 members present.

Dr. E. R. Carpenter reported the case of a woman who complained of frequent foul odor from her nose. There has been a submucus operation, apparently without good results. Immediately following the occurrence of the odor, the patient would become sleepy. A diagnosis of petit mal had been made in this case.

Dr. Carpenter also reported the case of a man, 42 years of age, who developed epilepsy, in which there was first an aphasia and then convulsions. The fluid from the ventricles of the brain was withdrawn and the cavities filled with air. It was found that the left ventricle was one-third larger than the right, the latter holding 60 cc. of air. The patient had meningitis at five years of age, which probably accounts for the epilepsy at the present time.

Dr. F. H. Newton reported the case of a mechanic, 41 years of age, with dimunition of vision. He had been using wood alcohol in his work, and was an inveterate smoker. There were also abscessed teeth. The bad teeth were extracted, the tobacco discontinued and the patient required to cease working with wood alcohol, after which the vision cleared up, returning to normal in about six months.

Dr. J. B. Shelmire presented lantern slide demonstrations of numerous cases, which cases were discussed also by Dr. Edward White.

Dr. C. F. Carter read a paper on "Rabies," which was discussed by Drs. Baker, Bell, Rosser and Strother.

Applications for membership of Drs. Allen G. Flythe and James C. Twitchell, were referred to the board of censors.

The Community Chest for Dallas, was endorsed and the following committee appointed to assist in raising the necessary funds: Dr. J. W. Bourland, chairman; Drs. W. T. White, W. W. Samuell, J. O. McReynolds, C. R. Hannah, E. H. Cary, J. B. Shelmire, M. P. Stone, Elbert Dunlap, H. G. Walcott, M. E. Taber, R. J. Gauldin, W. W. Shortal, J. B. Smoot.

Dallas County Medical Society met November 8, with 33 members present.

Dr. R. M. Barton reported a case in which a pin was found in the bronchus and one also in the appendix.

Dr. S. E. Milliken reported the case of a child wi a five-cent piece lodged in the esophagus, followir the removal of which recovery was good.

Dr. J. R. Holderness reported the case of a b suffering from headache, amblyopia and loss weight, in which the ophthalmoscope showed chok discs and retinal hemorrhage. All tests for lues we negative, notwithstanding which the symptoms a clearing up rapidly under antiluetic treatment.

Dr. W. B. Rockett reported the case of a man years of age, a cement worker, who suffered fro severe asthmatic attacks. His temperature was 9 respiration 35 and pulse 100. *X*-ray examinati showed tuberculous areas in the apex of the rig lung. The lung in both sides was cloudy. Furth examination disclosed that the lungs were almo solid with cement, much of which was coughed u

Dr. J. G. Poe reported the case of a child six yea of age, from whose left bronchus a canvas tack w removed with a bronchoscope, after having been the bronchus for one and a half years, during whi time the patient suffered no inconvenience, exce for an occasional fit of coughing. Complete recove followed removal of the tack.

Dr. Ben L. Schoolfield read a paper on "The Oper tive Treatment of Infantile Paralysis," which w illustrated by lantern slides. Dr. S. E. Milliken di cussed the paper.

Dr. J. G. Poe read a paper on "Importance Teaching the Signs and Phenomena in General Ane thesia in Detail to Our Students," which was di cussed by Drs. Watson, Deatherage, Schoolfiel Newton and Carnes.

A representative of the Bureau of Extension the State University, addressed the society, pr senting in detail the plans of the University for a educational campaign, including child health co ferences, nutrition clinics and the examination school children. She suggested that the campaig be conducted in Dallas, through the public school The society endorsed the project.

President Dr. Rosser reported the results of th health conference of the State Medical Associatio held at Fort Worth, November 7. He stated that widespread campaign of education and publicit would be launched in a short while, which wou include, with emphasis, the need of enforcing th Medical Practice Act. The outline of the campaig will be published in the State JOURNAL.

Drs. Allen G. Flythe and James J. Twitchell, we elected to membership.

Applications for membership of Drs. F. Monr Gilbert and P. E. Luecke, were referred to the boa of censors.

Eastland County Medical Society met in Eastlan October 23, with 26 members present.

Following the invocation by Reverend H. L. Mu ger of Eastland, the Welcome Address by Judg J. H. Jones of Eastland, and the Response to th Address of Welcome by Dr. F. E. Clark of Cisc the following program was rendered:

"Infantile Scurvy," Dr. R. C. Ferguson, Eastlan discussion led by Drs. M. L. Stubblefield of Gorma and W. E. Payne of Cisco. "Hay Fever Treated b Pollen Extracts," Dr. Joseph W. Gregory, Cisc discussion opened by Dr. Cabe Terrell of Range "Ectopic Gestation, Report of Cases," Dr. W. Jackson, Ranger; discussion opened by Drs. J. Shackelford and W. C. Palmer of Ranger. "Or Infections," Dr. W. E. Chaney (dentist) of Eastlan discussion was opened by Dr. Paul Wood (dentist Cisco.

Dr. J. H. Caton of Eastland, made a report cove ing the work of the House of Delegates of the Stat Medical Association, at Fort Worth, in May.

Resolutions endorsing the candidacy of the Hono able Joe Burkett of Eastland, for the gubernatori

nomination on the Democratic ticket, were unanimously adopted. The following two paragraphs are quoted:

"We cheerfully commend Senator Joe Burkett to the voters of Texas as being capable, honest, energetic and a democrat of the highest type. His record as County Judge of Eastland County, as District Judge of the Forty-second and Eighty-eighth Districts of Texas, as Representatives in the Lower House and his untiring labors in the Senate, alone, commend his candidacy to the Texas medical profession. His work and efforts against the combines of quackery and cults, backed by a tremendous campaign fund, when hired men came into this State to attack the Texas Medical Law, were able and commendable.

"We commend him as a neighbor, as ex-County Judge, as ex-District Judge, as an able lawyer and as an experienced legislator. All members of the medical profession are urged by us to vote and work for Senator Burkett for Governor in the coming Democratic primary election."

An auxiliary to the county society was organized, with twenty members present. Mrs. W. H. Guy, wife of the president of the county society, was chosen president of the organization, and the decision was reached to meet coincidently with the county medical society.

The secretary announced that President Dr. Scott of the State Medical Association, had promised to attend the next meeting of the society, to be held in Cisco, December 11, and that Dr. Kenneth M. Lynch of Dallas, had promised to read a paper on "Cancer; the Evolution of Our Knowledge and Its Bearing on the Future." He further announced that the next session would be devoted to the cancer problem, in accordance with plans of the State Medical Association and its cancer committee.

The visiting physicians and their ladies were served a chicken dinner by the local profession, following the conclusion of the program. The dinner was presided over by Dr. W. H. Guy of Carbon, president of the society, and numerous witty and humerous speeches were made.

Grayson County Medical Society met in Whitewright, November 6, with the following in attendance: Drs. Paul Gunby, Ross May, R. R. May, J. A. Birt, C. P. Johnson, A. W. Acheson, Sears, M. M. Morrison, W. A. Lee, M. C. Murphy, Pendergrass, J. A. Mayes, E. L. Seay, S. D. Moore, O. C. Ahlers, C. E. Schenck, J. F. Meador, O. H. Miller, G. F. Brown, G. E. Henschen, and Mr. R. M. Noe, druggist.

Dr. Pendergrass reported a case of stone in the bladder, in a boy 14 years of age, which had for its nucleus a piece of chewing gum, which had been inserted into the bladder three years before.

Dr. Sears reported the case of a woman 33 years of age, who had recently had an attack of influenza. Following recovery from this attack, there was an elevation of temperature for three months. No pathology could be found in the lungs during that time. The temperature became normal, but the pulse rate continued high, about 120, and the patient was very nervous. The pulse rate would increase immediately following eating or exercise. There were neither heart nor kidney lesions, and the thyroid appeared to be normal. The administration of thyroid extract was without effect.

Dr. M. M. Morrison was of the opinion that the case was early tuberculosis, and that the patient suffered at the same time from neurasthenia.

Dr. R. R. May read a paper on "Cancer Prevention," which was discussed by Drs. Paul Gunby, M. M. Morrison, E. L. Seay and G. E. Henschen.

Dr. Paul Gunby made report of a visit to the Surgical Clinics at Rochester, Minn.

Dr. A. W. Acheson read a paper on "Vital Statistics."

Harris County Medical Society met October 20, with 35 members present.

Dr. W. G. Bryan reported a case of osteomyelitis, which he illustrated with *x*-ray plates, made both before and after treatment. The case was that of a woman who had complained of pain in the forearm for several weeks and who had been treated for various ailments, among them being rheumatism. The *x*-ray showed involvement of the radius, which was cut down upon and the bone thoroughly curetted. The patient made an uneventful recovery.

Discussing the case, Dr. Frank Barnes was of the opinion that the *x*-ray is of little benefit in the diagnosis of osteomyelitis in the early stages. Where there is deep-seated, throbbing pain, with high fever and chills, one should not wait for the *x*-ray. The bone should always be removed at the point of infection, because it is dead at that place. The periosteum should be left in place. In a case which he had recently operated upon, the upper half of the tibia was removed entirely, and the results were excellent.

Dr. B. T. Vanzant challenged the statement of Dr. Barnes that *x*-ray findings are not of value in the early stages of the disease. Dr. Vanzant has been able to diagnose osteomyelitis in from twenty-four to thirty-six hours of the onset.

Dr. J. E. Hodges thinks the early use of *x*-ray is of assistance in recognizing this disease, and that many cases are not diagnosed until too late to get the best benefit from operation.

Dr. Frank Barnes read a paper on "Some Thoughts on the Diagnosis and Treatment of Major Post-operative Complications Following Acute Suppurative Appendicitis." The author stated that the belief of many that if a patient weathers the storm of operation in appendicitis all will be well, is in error. There are many complications in this and other operative procedures, and they should receive careful consideration before and after operation. In an abdominal operation, peritonitis may already exist; there will likely be adhesions; whether or not the appendix should be removed in suppurative cases is important; the condition of caecal walls may determine the presence or absence of complications; the character of exudate and the problem of drainage are important. The surgeon should be prepared to reopen the abdomen and pack should such a thing happen. The author has had five cases of subphrenic abscesses, with two deaths. A septic appendix in the abdomen is a grave danger, the removal of which will justify considerable additional hazard. Fecal fistulae are likely to occur in appendix operations where the stump cannot be ligated over sound tissue; they may be closed by the injection of bismuth paste, followed by strapping. The character of the exudate is important in determining the type of infection. The colon bacillus produces slight irritation locally, progresses slowly and there is a characteristic odor. Staphylococcic infection produces a rapid, fibrinous exudate with usually a small amount of pus. In streptococcic infection of the abdomen, the peritoneum is dry and fiery red. In the mixed infections there is usually considerable pus. Rectal examinations should be made in cases with pain in the right side. If pus is localized in the pelvis, it may be evacuated by the pelvic route. Frequently the appendix has been destroyed and the pus has localized in another part of the pelvis. A soft rubber tube may be used in searching the pelvis for pus, without a great deal of danger to the patient. In post-operative ileus, which is usually due to localized peritonitis or adhesions, the symptoms are usually less acute than in general peritonitis. It

demands immediate attention. If the obstruction occurs within a few days after drainage, an ileostomy should be done. If the condition can be relieved without it, the operation should not be done. Spreading post-operative peritonitis is the most fatal complication which may occur, and it is comparatively rare. The treatment consists of proper position, fluids by rectum, morphine, gastric lavage, stimulation, hot applications to the abdomen, etc. Where the infection is streptococcic the case is usually hopeless.

Discussing the paper, Dr. Hodges agrees with the author that streptococcic post-operative complications are nearly always fatal. The condition can usually be recognized immediately upon opening the abdomen, by the character of the peritoneal inflammation, the peritoneum being fiery red and there being little exudate.

Dr. S. C. Red usually tells his patients that if they are doing well on the fifth day after operation, they probably will recover. His experience has been that fecal fistulae will get well, no matter what treatment is used. Since he has adopted the practice of pouring ether into the abdominal cavity in streptococci infections, his mortality has been lower. Evacuation of the bowels in such cases is highly important.

Dr. J. H. Graves commended the practice of making rectal examinations in cases of post-operative complication following abdominal operation, and before operation as well, where the pain is low down in the right side. He also commended the use of the rubber tube in searching for pus in this locality.

Dr. F. B. King was of the opinion that concealed pus causes more deaths than any other post-operative complication. The treatment of these cases requires the keenest sort of judgment.

Dr. Joseph Harris was of the opinion that there would be fewer post-operative complications if appendicitis were recognized earlier and given more prompt attention. In acute appendicitis drainage is not always required, even in cases of gangrenous appendix.

Harris County Medical Society met November 3, with 55 members present.

Dr. R. Dawes presented a case of Banti's Disease, in a boy 16 years of age. The personal and family history in this case were negative, except that the patient suffered a fracture of the skull about a year ago. He became ill about the time of the accident referred to, suffering from persistent headache. The spleen was enlarged at the time. One week ago the spleen was enormously enlarged, reaching almost to the umbilicus in the midline. The legs were swollen from the knees to the ankles. He was considerably jaundiced and there were purpuric spots on the legs. These symptoms have materially decreased during the past week. The patient has gained 15 pounds during the year of his illness. His vision is good and blood pressure is normal. Blood count shows 1,120 white blood corpuscles, 720,000 red blood corpuscles, hemaglobin 45 per cent, polys 46 per cent, small mononuclear leucocytes 38, large mononuclear leucocytes 10, transitionals, 4, eosinophiles 2. The urine was acid, with a specific gravity of 1,010, with large quantities of albumin and some pus present.

Discussing the case, Dr. Levy stated that the blood pressure in this case is not that of a splenomyologenous leukemia. One must consider the disease, however, even though this is true. There is usually some hemorrhage from the stomach in such cases. One or two blood counts is not sufficient, as a rule, to rule out the anaemias.

Dr. J. H. Graves stated that he had seen several such cases caused by intestinal parasites, and there are sometimes many parasites found in the spleen in these cases.

Dr. Herman Johnson reported a case of obstructi in which the presentation was unusual. The patie was 38 years of age, and had been married eig years. There had been two previous normal pre nancies, with instrumental delivery in each. T expected date of confinement was May 8 to 15. C May 10 the patient was thought to be in labor a was sent to the hospital, where she remained twent four hours, at the conclusion of which time she w sent home, the pains having ceased. The head of t child was at this time felt in the pelvis, and the fet heart sound was in the midline near the umbilicu June 2 she was returned to the hospital. Labor pai were severe and there was a bloody vaginal discharg There seemed to be no progress, and the patient wa examined under general anesthesia. The vagina wa tubular in shape, and the cervix was located abov and to the right, in the region of the liver. The hea was in the fundus, in the false pelvis, and the fe were above, near the cervix. Delivery was accom plished by catching the feet and making tractio while pushing the fundus upward with the han placed upon the lower abdominal wall. The bab was somewhat asphyxiated but soon recovere There was considerable hemorrhage a few hour after delivery, which was checked, and convalesenc was stormy. In this case pregnancy no doub occurred in a third degree retroversion of the uterus

Dr. Palmer Archer read a paper on "Headach from the Rhinological Viewpoint," in which th author asserted that the most common source o headache were rhinological conditions, such as in fection of the sinuses, faulty drainage and reflexe from hypertrophied bones and obstructed air pas sages.

Dr. T. A. Dickson called attention to the larg size of the air spaces, and further to the existenc of rhinoliths, both of which might well cause head ache.

Dr. J. H. Graves reported a recent case in whic persistent headaches were relieved by packing th nares.

Dr. C. C. Cody read a paper on "Fads and Fallacie in Medicine," which was discussed by Drs. Kirkham Archer, Dickson, Johnson, Hodges, Patterson, Har grove and Flickwir.

The San Antonio Ophthalmo-Oto-Laryngologica Society, a subsidiary or the Round Table Study Clu of the Bexar County Medical Society, held its initia fall meeting at the country home of Dr. J. H Burleson, October 2. At this meeting dinner wa served by the host and the following officers were elected: President, Dr. J. H. Burleson; vice-president, Major J. H. Trinder; secretary, Dr. A. F. Clark.

The membership was divided into groups for the work of the year, each group having its particular subjects for research and study. The meetings of the society will be held on the first Tuesday in each month, in the county society rooms.

The November meeting was held at the hospital at Fort Sam Houston, the army officers on duty there entertaining. The following program was rendered: "Intraocular Tumors," Captain Wm. D. Gill—discussion opened by Dr. F. H. Rosebrough; "Surgical Consideration of Ear, Nose and Throat," Major J. H. Trindler—discussion opened by Captain Paul S. Wagner; "Ocular Manifestation of Dengue," Captain Logan M. Weaver—discussion opened by Capt. Wm. D. Gill.

Tarrant County Medical Society met November 6.

Dr. K. H. Beall reported a case in which a greatly dilated portion of the colon had been removed two years ago, with complete recovery.

Dr. Chas. F. Clayton reported a case of osteomalcia with external bilateral coxa vara, showing the results of a double cuniform osteotomy of the femur.

Dr. Bacon Saunders presented the report of the Committee on Traumatic and Industrial Surgery, of the American Railway Association.

Dr. M. L. Woodward was elected to membership by transfer from an out of state society.

The Finance Committee of the society was directed to prepare a budget for the forthcoming fiscal year, in order to determine whether or not the full amount of dues should be collected.

A committee was appointed to consider the matter of inviting the Oklahoma, New Mexico and Texas Division of the American College of Surgeons to meet in Fort Worth, with authority to act.

Personals—Dr. B. A. Kirkpatrick of Thrall, is in New Orleans, attending the Charity Hospital and other clinics. He expects to return home in a few weeks, and will give special attention to obstetrics and the care of infants.

Dr. J. Frank Clark of Iowa Park, Texas, was married November 6, at Abilene, Texas, to Miss Josephine Daniels. They will reside in Abilene.

CHANGES OF ADDRESS.

Dr. W. D. Biggs, from Lampasas to Lometa.
Dr. M. L. Elliott, from Sherman to Houston.
Dr. E. R. Boren, from Holland to Belton.
Dr. Malone Duggan, from San Antonio to LaFeria.
Dr. W. A. Fleming, from El Paso to Miami, Fla.
Dr. J. E. Willerson, from Waco to Lampasas.
Dr. W. S. Baldwin, from Mineral Wells to Dallas.
Dr. L. B. Auerbach, from El Paso to Los Angeles, Calif.
Dr. W. E. Vandervere, from El Paso to New Orleans, La.
Dr. T. E. Tabb, from Rusk to Waco.
Dr. S. H. Stewart from Desdemona to Lubbock.
Dr. Louis F. Hodde, from Burton to Houston.
Dr. J. E. Burney, from Fostoria to North Zulch.
Dr. W. J. Wilkins, from Kosse to Parker.
Dr. W. T. Davidson, from Dallas to Belton.
Dr. H. B. Lemmon, from Mercedes to Welasco.
Dr. Wm. A. Brymer, from San Antonio to Phoenix, Ariz.
Dr. W. J. Deegan, from Dallas to Miami Beach, Fla.

DEATHS

Dr. E. J. Bettis of Cisco, died suddenly October 16, while convalescing from a severe illness.

Dr. Bettis was born in Jefferson county, Tennessee, December 28, 1854. He attended the Carson-Union College at Jefferson City, Tennessee, during 1869-72, following which he practiced a short time at King's Mill, Virginia. He later went to Talbott, Tennessee, where he practiced until 1880, when he went to Atlanta, Georgia, and took lectures in the Emory University School of Medicine, from which institution he received his degree in 1881. He practiced at Knoxville, Tennessee, until 1888, when he removed to Cisco, where he had built up a splendid practice, but on account of failing health returned to Tennessee in 1895, returning again to Cisco the following year. Three years later he went to Pecos, Texas, after which time he returned to Tennessee and entered the University of Tennessee, from which he graduated in 1902. He then went back to Cisco, where he continued to practice.

Dr. Bettis was a member of the Eastland County Medical Society, of which organization he was one of the organizers. He is survived by his wife, one daughter and one son.

Dr. Wm. S. Sanderson of San Saba, died at his home, October 29, 1923, following a seven months' illness.

Dr. Sanderson was born in Clay county, N. C., January 29, 1851. He graduated in medicine from the Atlanta Medical College in 1875, and came to Texas the following year, locating in San Saba, where he had since practiced. He was a charter member of the San Saba County Medical Society, of which organization he was a member at the time of his death. He was buried with Masonic honors.

Dr. Sanderson was married to Miss Amanda Hanna of Cherokee, Texas, who, with four daughters, survive him.

Dr. Earle S. Winters of Dublin, Texas, died at his home, October 19, 1923, following a short attack of pneumonia.

Dr. Winters was born in Kosciusko, Mississippi, March 8, 1869, and while quite young came to Texas with his parents, locating at Dublin. He received his early education from the Dublin public schools, later attending Clinton College at Clinton, Mississippi. He

DR. EARLE S. WINTERS

received his degree in Medicine from the University of Tennessee, in 1897. He was married to Miss Alice Shelton, in May, 1897, and began practicing medicine at Exray, Erath county, Texas. In 1904, he located in Dublin, where he practiced until a short time before his death. He had been a member of his county medical society for many years, and at one time served as president of that organization. He served as city health officer of Dublin for two terms, and had been local surgeon for the Frisco Railroad since 1918. He had taken post-graduate work in St. Louis, New Orleans and New York, and was recognized by his fellow practitioners as one of the ablest physicians in that section of the country. He was a member of the Baptist Church, a Knight of Pythias and a Mason. He was a man of genial personality, earnest, energetic and conscientious, and had made many friends, in evidence of which his was one of the largest funerals ever held in Dublin.

BOOK NOTES

The Medical Department of the United States Army in the World War. Volume V, "Military Hospitals in the United States,." Prepared Under the Direction of Maj. Gen. M. W. Ireland, M. D., Surgeon General of the Army, by Lieut. Col. Frank W. Weed, M. C., U. S. Army. Washington. Government Printing Office. 1923. $2.25 per copy, the Purchaser Agreeing not to Resell or Distribute for Profit. Pub. Res. 57, Approved May 11, 1922.

The Editorial Board of this work consists of Col. Charles Lynch, M. C., Editor in Chief; Dr. Roy McAfee, C. S., Assistant Editor in Chief; Cols. Bailey K. Ashford, Frank Billings, Thomas R. Boggs, George M. Brewer, W. P. Chamberlain, C. F. Craig, Haven Emerson, J. H. Ford, H. L. Gilchrist, James F. McKernon, S. J. Morris, R. T. Oliver, Charles R. Reynolds, Thomas W. Salmon, J. F. Siler, A. D. Tuttle, F. W. Weed, William H. Welch, E. P. Wolfe, Hans Zinsser, Lieut. Cols. Fielding H. Garrison, A. G. Love, G. E. De Scheinitz, Casey A. Wood and Brig. Gens. John M. T. Finney and W. S. Thayer.

After the preface and introduction, the volume is divided into seven sections and thirty-four chapters, describing, "Procurement, Construction and Improvement;" "Organization, Administration and Control;" "Types of Hospitals;" "Other General Hospitals;" "Other Base Hospitals," and "Other Embarkation and Debarkation Hospitals." There are 204 Illustrations, and 22 Tables.

The binding is cloth and well done. The paper and presswork are of the best. The text is well written and valuable, the work of many of our best doctors and most scholarly teachers. The medical service of the Army and the medical profession in general, are to be congratulated.

Pennington's Diseases and Injuries of the Rectum, Anus and Pelvic Colon. By J. Rawson Pennington, M. D., F. A. C. S., Proctologist to the Columbus Hospital, Veterans' Hospital No. 30, and the United States Marine Hospital; Chairman of the Scientific Assembly, Section on Gastro-Enterology and Proctology, American Medical Association. Published by P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia. 679 illustrations, including 2 plates. Cloth, $12.00.

In the preface Dr. Pennington informs us that "The most recent treatise on proctology is that of the late James P. Tuttle. As over twenty years have elapsed since its publication, the time seemed ripe for another extensive inventory—as it were—of the different affections of the rectum, anus and pelvic colon. During the interval, while probably no startling discovery has been reported in proctology itself, my specialty has profited by the general advances in medical—and scientific—knowledge, notably the discovery of the causal organism of syphilis, and the potent remedies to attack it."

The author's aim has been to give to the reader the most important matter found in the mass of what has been current in the large literature on his subject, which his own experience can approve as of value to the practician in his daily work. He quotes from about 2,000 authors, crediting them in a personal index at the end of the volume. Much space is given to medical historic matters as related to the subject of the book, and the author recognizes the growing interest in medical history as most valuable and laudable.

Of the anatomy of the pelvic organs, which is amply discussed, he says: "First of all because everybody knows that it is much more convenient to have all data at hand under the same cover, and thus save time and the annoyance of referring to a systematic, or a regional anatomy. Next, since, in addition to the extensive personal investigations, the account has been gathered from sources, several of which are not readily accessible. For the pathologic anatomy, reliance has been placed, principally, and of necessity, on foreign authors. * * * About half of the illustrations are original, and where not, are often from sources which, again, are not generally available."

Figure 674, page 905, designates the uterine fundus as "Pundus Uterus;" otherwise, the illustrations are apt and helpful. Many interesting portraits embellish the book.

The text is divided into three parts, which are subdivided into thirty-six chapters. Part I discusses General Principles of Proctology; Part II, Diseases and Injuries to the Rectum and Anus; Part III, Diseases and Injuries of the Pelvic Colon.

If the author is correct in his statement that it has been twenty years since we had a new work on his subject, it is high time for such to be forthcoming, and we believe he has ably met the exigency in the book before us. His position in the medical profession assures us of his right to be accepted as an able teacher. It is also true that no field in medicine is more important than this, which has been left largely —more largely than any other, to the charlatan and quack; and surely none has furnished fatter pickings for the patent nostrum vender. Sedulously studied and its lessons diligently applied by properly educated physicians, this book will do its share to do away with trifling with gullible sufferers, and save both time and money for them.

The New Pocket Medical Formulary, with an Appendix Containing Much Valuable Information for the Busy Physician. By William Edward Fitch, M. D. Third edition, revised. Flexible cloth, 16 mo, pages 470. F. A. Davis Company, Philadelphia.

This is one of the most valuable little pocket manuals ever given to the busy doctor. It contains 1,948 medical prescriptions, embracing about every clinical condition met in daily practice; formulae for fluid foods; diet lists; differential diagnoses; dose tables; weights and measures; utero-gestation calculations; instructions for reducing fractures, dislocations and sprains; ligation of arteries; hemorrhages and wounds; asphyxia and apnea; poisons and antidotes; incompatibilities; baths, and emergencies.

Anxiety Hysteria—Modern Views on Some Neuroses. By C. H. L. Rixon, M. D., M. R. C. S., and D. Matthew, M. C., M. B., Ch. B., with a Foreword by Col. Sir A. Lisle Webb, K. B. E., C. B., C. M. G., Etc. Muslin over boards binding. 12mo, pages 124. Illustrated. Paul B. Hoeber, 67-69 East 59th Street, New York. $1.50.

This little book deals with the functional disorders consequent upon the late world war. Its authors are practical neurologists, and have proved their competency to deal with their chosen subject. The book is well written and valuable.

The Nature of Insulin.—The manufacturers of insulin from the pancreas is a costly and laborious undertaking. Therefore, the artificial synthesis is important. Before the prospect of a synthesis can be entertained, however, the chemical structure must be ascertained. Evidence is developing that insulin is protein in nature. Consequently the hope of its isolation as a chemically pure substance becomes slender—*Jour. A. M. A.*, Sept. 29, 1923.

Texas State Journal of Medicine

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DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH OF TEXAS

A Bigger, Better New Year is hopefully anticipated for the medical profession of Texas. At any rate, we are wishing for it "with both eyes wet, as my uncle used to say," and to go a little further with that good friend of humanity, James Whitcomb Riley, "if crying won't get it, we'll try sweat." We are not certain of our quotation but are sure of the thought. No doubt about it, many of our troubles are borrowed. Yesterday is gone, today is here but a moment and tomorrow will pass before we know it. It is up to us to enjoy today and plan for the enjoyment of the morrow. If we will do this, yesterday will be remembered with pleasure—always barring those unfortunate incidents which come to us from time to time as attributes of human nature and necessary evils of existence on this mundane sphere.

"Mebbe Today things *do* look kind o' blue,
Mebbe there's reason for cryin';
P'raps you've got cause for the grousin' you do,
P'raps there's excuse for your sighin'.
But, Buddy, Today's just a flash on the screen,
So don't look for troubles to borrow,
But pack up your woes in your kit bag, and say,
'Well—things will be better tomorrow!'

"Mebbe the world *is* an unrestful place,
Tired and war-worn and scrappy;
Mebbe it's hard to get used to the pace,
Sometimes it's hard to be happy.
But, buddy, there's silver behind every cloud
And smiles made to chase away sorrow,
So buck up and grin at your troubles, and say,
'Well—things will be better tomorrow!'"
—*American Legion Weekly.*

It does seem that affairs are in rather bad shape, no matter from what angle we view them. It cannot very well be said that normalcy has arrived. We are perfectly willing to settle down to prewar conditions and standards, but the other fellow won't settle down at the same time, and we have to keep jumping in order to maintain our place in the sun. This fact would be discouraging were it not for the further fact that movement is not perpetual and if the force behind motion is set at rest or neutralized, it will cease. In other words, and not to get lost in our figures of speech, if we will each of us do our part the disturbed equilibrium will be effectively if not speedily adjusted. It is a matter of precept and example, *the leaders must lead.*

It appears at times that our people are against us; that they do not appreciate our interest in their welfare and the sacrifices we make for them. It appears at times that we doctors are unduly and unhappily suspicious of each other. It is easy to let pessimism of this sort lead us astray. It is up to us to salvage what we can of the situation, no matter what it is. We must be unselfish in our endeavors if that is to be accomplished. If we proceed along the lines of our self-interests, without regard for others, we are continuing by our example the very condition we desire to control. We must forget the temporary advantages gained by others through selfish deeds. We will profit by it in the long run. Perhaps 70 or 80 per cent of our people *will* appeal to the irregular practitioner or the quack when they *think* there is something the matter, but most of them will turn to the doctor in time of real trouble. It is unfortunate that they must deny us the inspiration of their dependence and the material aid of their fees,

and that they must suffer in their turn for their indiscretions; but this cannot be avoided at the present time. More light on the subject will be helpful, and that is what is going to come about. We may consider our brother practitioner unkind and unsympathetic when we hear of him through our mutual friends of the laity, but the chances are that he will not hesitate to come to our assistance when he is really needed. His sympathy is basically with his fellow practitioner, and it can be diverted only temporarily.

For the coming year we wish for our readers the best that may be theirs, and join the *Detroit Free Press* in the following admonition:

"Just buckle in, and keep your grin,
Don't ever say: 'We may not win.'
When things go wrong and skies look black,
Don't magnify the foe's attack,
And wail where'er you walk about,
The dismal doctrines born of doubt,
But bear the blow, and face the raid,
Don't ever say that you're afraid,
Because your whimper and your whine
Another's grit may undermine.
If you can't see one ray of hope
Don't peddle 'round your gloomy dope,
And say that things are looking ill;
If you can't cheer the boys, keep still."

The Financial Welfare of the Medical Profession should be a matter of concern to everybody. "Milk from satisfied cows" is not a circumstance to service by a financially safe doctor. A doctor who is continuously worried by debts that he cannot satisfy and who must spend a great deal of time studying the devious ways of easy money, seeking to provide for the future, cannot be concentrating on medicine and medical affairs to the extent necessary if he is to do his best work. We do not hope to impress the lay public with the economic importance of the problem, but if we make the doctor take such account of these facts as will encourage him in the belief that he is not incapable of handling his own money to advantage, and that it is not out of the question to expect to accumulate a competency during the years of his practice, the effort will be distinctly worth while.

It is with this idea in mind that we have had some correspondence with an organization known as the Investment Bankers Association of America. We have been favored with several very good discourses, but there is not room for them at this time. We may well be content with a few pertinent paragraphs from a letter written by Mr. Samuel O. Rice, educational director of that organization:

"'The heads of three bond houses,' my family doctor said to me the other day, 'are patients of mine, they and several subordinate officers of other houses, and I'll be hanged if they aren't more careless with their health than is all the rest of my practice put together. They'll work like demons for months at a time and then try to make up for the loss of daily exercise and common sense routine by trying to crowd a year's recreation into a few weeks. They'll eat, and drink, too, a lot of stuff that's bad enough at home, but is doubly damaging when they take frequent business trips with irregular hours, heterogeneous food and the unavoidable strain of an exacting business. They are the worst spendthrifts of health that I know among intelligent men.'

"'At least they are not as bad as doctors,' I replied to my friend's amazement. 'When they need medical service you've got to admit they don't go to quacks for it. They go to the reputable profession and to recognized specialists, don't they?'

"'What has that got to do with it?' the doctor asked. 'Physicians can't avoid irregular hours, but they're not—'

"'The argument is,' I interrupted, 'on the use of common sense, isn't it? You say that bond men don't use common sense about health. But as lax as they are in that, they are not as lavish in squandering health as physicians are in squandering money in so-called investments. Bond men at least exercise common sense enough to realize that it requires a doctor to exercise medical judgment for them. How many physicians realize that it requires a 'doctor' of investments to select investment securities dependably? Ever hear of an investment banker being swindled by a quack practitioner? How often are physicians swindled by quack investment schemes?'

"'There are just two reasons why doctors, as a class, are noted for buying worthless securities. One of them is their failure to realize that in seeking good, sound investments one has to do exactly the same thing he does in seeking health—consult an honest, competent practitioner.'

"'What's the other reason why we buy worthless securities?' my friend asked with a smile. 'Because doctors are not business men?'

"'That's the reason usually given, but I don't believe there's anything to it. The second reason is too much optimism.'

"'There isn't one of you who doesn't believe that next year's practice is going to be a whole lot more remunerative than this year's. Your first years of practice, when you started with nothing and gradu-

ally built up your income, taught you that. It's firmly fixed, perhaps subconsciously, in every doctor's mind. It's a life thought-habit of the profession, besides being a somewhat common human trait.'

"'Six months ago I had a little ready money and I asked you to send me your bill. I telephoned you twice. I got that bill last week, six months after I had put my little ready money into some sound investments selected by an investment specialist and not by inexperienced friends or an easy-talking promoter. Now, when I'm shy of cash, you optimistically send me a bill. I'll bet you $4.00 you are going to buy a new car. You are careless about collections, partly because it is in the code of your profession not to be mean and grasping. I honor you for that, but your eternal optimism is also a part cause. Oh, you say, I'll get more money next month; if not from Jones, from Smith. And you base your investments on the same kind of careless optimism.'

"'The so-called intelligent public has learned its lesson in medicine, that of consulting reputable practitioners. It is just as important that the medical public learn the same lesson as applied to investing of money. You nor no other physician can judge an investment security dependably, if you continue attending to your legitimate vocation. Even if you had time to do it, very frequently you haven't the facilities to determine the worth of a security. Physicians should be the first persons in the world to recognize this fact, but strange to say many of them do not. As a consequence, they are notably heavy losers in bad investments. And the cure for this bad investment condition is the same as in a human pathological condition—consult the reputable specialist who is competent to treat the case."

Our correspondent misses the mark a bit when he insists that capitalists do not go to quacks when they need medical service. Distinctly, they do. Perhaps they are not as bad about it as some others, and quite probably they do not consult quack doctors as often as physicians consult quack financial advisers; but the point is, there is a standard of education and ethics in every profession and business, and it is best that those of us who are not experts hew close to the line and depart therefrom only upon expert advice.

Speaking of investments, Mr. Rice calls attention to the difference between "investments," "speculation" and "gambling." He classes life insurance, approved bonds and homes as investments. Any business venture is speculation.

"Stocks are not investments. They are speculative; that is, they are business ventures. There is no assurance that any part of the money put into them ever will be returned, or that they will yield a profit. Stocks in selected, established, well-managed enterprises, although speculative, may be very profitable and desirable. Stocks in new enterprises by honest, experienced, progressive men may be most worthy. Such activities build up the country's prosperity. They should be encouraged. But thousands of stock-selling schemes of honest but incompetent men and of frauds, are highly dangerous. To buy such stocks is not speculating; it is taking long, unjustified chances, simply gambling.

"In considering stocks the average investor should weigh two factors: First, if he is solely dependent on his earnings, either wages, salary or professional fees, if he has no other income and cannot afford a possible loss or a possible long wait for dividends, then he should consider only sound bonds and life insurance, with their safe and assured return of interest and principal. Second, if he has sufficient income, or is not wholly dependent on his earnings, he should know positively that the men behind the stocks he is considering are thoroughly honest and experienced, and that the business has sound, reasonable business opportunities to succeed. There is only one way to determine these facts, and that is to consult an honest expert in investment securities."

It would seem that the point of the whole discussion is that the individual should first make himself reasonably secure by well selected "investments," and then seek by approved "speculation" to increase his financial status beyond that. Any gambling he desires to do should be done with surplus money.

Fees for Medical Services.—The Bureau of Labor statistics recently published some pertinent facts relating to the cost of living. There was an increase of 1.4 per cent during the three months between June and September of last year. A trial balance in the month of September disclosed the fact that the cost of living was 72.1 per cent more than the average for 1913. This increase covers the following items: food, 49.3; clothing, 76.5; housing, 64.4; furniture, 122.4; fuel and light, excluding electricity, 81.3 (electricity is excluded because that shows a decrease of 5.1). These are items necessary to the physician. We regret that the Bureau did not favor us with a comparative statement of medical fees. When the increase in one commodity is investigated, it is found that it is justified by the increase in cost of production, and each item in the cost has the same reason for its justification. In short, there is a vicious cycle, and in discussing the cost of

medical service, the part of medicine in the cycle must be considered.

Approaching the cost of medical service from another angle, *The Saturday Evening Post* sometime ago had the following to say, editorially:

"For many years the overhead costs of medical service have been steadily rising. The patient pays more and gets more. The whole tendency of modern medicine is to lean more and more heavily upon collateral sciences and to invoke their aid in substituting moral certainties for the exercise of unassisted judgment, which, though frequently highly skilled, was often unsatisfactory. The common use of the *x*-ray is the best known illustration of this tendency, though dozens of others might be named. Scarcely a month passes that new tests, bacteriological, chemical and microscopical, are not devised and added to the long list of those now in general use. Large groups of specialists are needed to work the new oracles, but if they are resorted to with discretion their employment is usually justified by the results."

The much discussed effort of Johns Hopkins University to limit the fees charged by its faculty for private practice inspired the following paragraph of the editorial above referred to:

"Most physicians are quite ready to acknowledge that they charge their rich patients more than their poor ones. It is stated on high medical authority that the wealthiest fifth of the average community indirectly pays most of the doctors' bills of the poorest two-fifths. Persons in the intermediate layer pay just about what they should. Until the practice of medicine is taken over by the state there are only two other systems that can be employed: First, to charge neither rich nor poor more than a nominal fee; and second, to serve only the rich and well-to-do and let the poor shift for themselves. The former course is closed to the doctors by the first law of nature; the second by the dictates of humanity."

Of course, the Johns Hopkins dictum has little to do with the problem as a whole. We do not believe that the intelligent layman thinks of the fee charged by the established expert in the same light that he thinks of the fee of the average run of physicians. But there is something that he does think of that should have our particular attention. Again we refer to the editorial of the *Post*:

"The real pest among reputable physicians is the young man who expects his patients to pay for his needlessly high overhead expenses. He may be known by his spacious and elaborate offices and waiting rooms, buttoned door boys, sleek secretaries, fluttering office nurses and powder monkeys of both sexes and an all-pervading shimmer of white enamel, mechanical novelties and glittering metal work.

"Not infrequently the young practitioner who indulges in all these fripperies is trying to put over a poor piece by means of costly stage effects. He sometimes forgets, and his patients still oftener fail to realize, that what he really has for sale resides in his own cranium, and that mere style, atmosphere and scenery are poor substitutes for knowledge, experience and technical proficiency."

One of our Texas cities recently employed a lawyer to investigate and determine whether the cost of service of a corporation should be reduced. His bill, covering nearly two weeks (part time) investigation, was $5,000. He was allowed $2,500. The same city could not afford to employ a whole time health officer. It is doubtful whether it would have been willing to pay a fee of $1,000 for any amount of investigation pertaining to health conditions (unless it was by a lawyer).

A large estate was recently settled by a group of eminent lawyers, and a fee of more than $1,000,000 allowed therefor. It seems that there were no intricate points of law to be decided. The fee was based upon the size of the estate. Surgeons settling the health estate of a millionaire, salvaging for him a reasonable portion of his longevity, would feel highly elated if allowed a fee of a few thousand dollars. We have not heard of any law school attempting to restrict fees for legal services. It will, incidentally, be understood that we do not advocate anything of the sort. We are not envious of the lawyer because he requires his clients to support him well while he serves, and free his future of financial anxiety. The disparity in the incomes of the medical and legal professions is between those at the top, and not between the average of either.

The discoverer of insulin has been allowed by his government (not the United States, be it understood) a life annuity of $7,500. That is moderate interest on $150,000. We wonder just what sum Dr. Banting could have demanded for the secret of his discovery if he had chosen to commercialize it. Remember Friedmann and *his million dollar turtle serum!* The inventor of a method of autographing films as pictures are taken, so we are informed, was paid $200,000 for his patent rights. Walter Reed, the discoverer of the means of transmission of yellow fever, after much agitation and Congressional travail, was so inadequately rewarded by his government (the United States of America) as to excite widespread derisive comment. He was allowed to die in the knowledge that the future of his family was not provided for. Mr. Ford found out how to manufacture automobiles so they could be sold at a popular price. He has so much money that he recently misplaced $10,000,000, and was surprised when the Federal authorities found it and required that he render it for taxation.

Examples do not need to be multiplied. There is ample reason why the medical profession should require remuneration on at least a comparative basis. The public no less than the medical profession, is interested.

We live in an atmosphere of commercialism, and we cannot escape its influence. If we cannot attract to the field of medicine the most competent of forthcoming generations, we are not going to be able to keep pace with the advance of medical science. It is the layman who will pay the price of this deficiency and not the physician. It is equally important that adequate service be returned. We do not want to get in the chiropractic, *et al* class. An individual attracted to medicine by the opportunities for quackery will not make a good doctor, as a rule. It is in between that we are best served. The *St. Louis Star* gives it as a fact that a chiropractic college in Chicago has the following sentence in one of its lessons on practice: "Scare them to death and then give them the financial harpoon."

Collections.—There is not much financial advantage, in large, overdue and unpaid accounts. There will always be such accounts, at least so long as the present relationship of the doctor to his patient obtains; but there are unpaid accounts that might as well have been paid, and perhaps would have been paid had the doctor done his part. There is a lot of psychology in this matter of paying debts. The probable reaction of the patient must be taken into consideration. A statement of account received by a patient before he is on his feet, particularly if he is not "in funds," may stand in the way of early collection, either by antagonizing the patient or by leading him to feel that the doctor is more concerned in the money than in the service side of their relationship. We have inherited the idea, and it has constituted the greatest glory of the medical profession, that the practice of medicine is primarily a service in the interest of humanity, the fee being by way of an honorarium and because the servant must live. The nature of the service is supposed to determine the size of the reward. While it is true that evolution has reached the point of an established fee bill and understanding in regard to the money value of medical service, the mental attitude of the patient is still influenced by this thought, which is fundamental as well as traditional.

No one familiar with business affairs will take offense at prompt and repeated presentation of accounts. If accounts are not rendered promptly and at regular intervals, opportunity may be missed. The individual is going to do something with his money. He will divide it among his creditors, pay off certain of them, or, paying all that he knows of, invest the surplus. It is well that the doctor's statement of account be on his desk when decision is made. Failure to render statements of account is more often due to preoccupation than to fear of offending. The doctor usually does not have so much practice that he cannot keep his own books. Keeping his own books, he does his own posting and mailing of accounts during his leisure; which is not always on the last day of the month—and frequently not anywhere near it. The matter goes by default. The patient spends his money or leaves the community, and the doctor is out of pocket.

Taking advantage of this dilemma, there are collecting agencies, good, bad and indifferent. We assume that there are large agencies which are honest, and which render satisfactory service. There are undoubtedly local agencies which do this. We are informed that there are agencies of both types which should be avoided. The chief complaint against the large agencies falls under three principal heads: (1) Personal service in collecting accounts is promised, but methods are along the usual line of browbeating, villifying correspondence; (2) money collected on accounts is either not turned in or it is held beyond a reasonable time, and the correspondence of the physician-client ignored, and (3) accounts may not be withdrawn before collection except a specified commission is paid thereon. Complaints against local agencies need not be considered here. Delinquency in remitting on accounts collected cannot be guarded against. It should be clear that no agency can afford to employ collectors in any locality where there is not a considerable volume of collections. An examination of the contract will determine whether the physician may withdraw accounts submitted for collection, and under what terms.

In numerous instances, physicians have united in a bookkeeping and collection arrangement that has proven satisfactory for a time. As a rule, these organizations go on the rocks because there is nobody to guide them. These groups have been statewide in one or two instances. They have not been successful, largely because those who must be depended upon for assistance do not render it promptly and satisfactorily. There is opportunity in co-operation, but the problem inevitably comes back to the individual, and must be handled by him. It only remains for him to establish a routine, and be frank and honest with friend and stranger alike, always remembering that turn about is fair play.

Funds for Our Educational Campaign are needed *now*. Each member is urged to subscribe at once, and raise the ante to $10.00.

The money should be handed to the county society secretary. The work set out to be accomplished is going forward, the Council on Legislation and Public Instruction and the Board of Councilors, being confident that the necessary money will be forthcoming in due time. The extent of the campaign, and even its character, will be determined by the amount of money raised. The House of Delegates in planning this movement decided that the expense of such a campaign would be an unjustifiable drain on the treasury of the State Association just at this time. It was the general opinion of those who decided the matter (both in the House of Delegates and the General Session) that missionary work, which, for the present, this is, should be done strictly on a volunteer basis. It has been recognized from the inception of the movement that it would be better to do nothing at all than to start and then fail, for any reason whatsoever.

The proposition is being sold to our members as rapidly as could be expected under the circumstances, and while prospects are bright, progress is slow. There are misapprehensions that it takes time to meet, and there is an inertia which it will take time to overcome. The lay public, as a whole, has no conception of the subject. That it is to the interest of the people that they understand is almost a self-evident truth, and most people can be easily convinced. In no instance where the whole story has been vividly told has the profession failed to respond to the call 100 per cent strong. That fact should be sufficient to convert the doubtful brother, even though he be suspicious of the motives, or doubtful as to the good judgment of those in charge. Very properly, there is opposition to the usual run of lay press propaganda—such as has heretofore been promulgated by the chiropractors, for instance. Likewise, the objection to raising a "slush" fund, to be used in approaching the Legislature, is right and proper. We are assured that the Council on Legislation and Public Instruction has no idea of engaging in such enterprises. The advertising matter will be dignified, concise and to the end that the people may understand the plans of the campaign and its purposes. There is no intention of engaging through the medium of paid newspaper advertising, in arguments for or against any particular method of treatment or control of disease, or theory of the cause of disease. Such a discussion would be interminable, and the biggest and most conscienceless prevaricator would, in the eyes of many, be the victor. The advertising matter will be strictly impersonal.

We are confident that the small amount sought will be forthcoming in due time. The money will be accounted for in detail by the Trustees, and the exact method of its expenditure published to the world. If we start the ball to rolling, there will be those outside of the medical profession to keep it going. The burden is ours for the time being, but willing shoulders will take it up later. Unquestionably, this is the proper sphere and function of the state and local boards of health, and governmental health agencies of whatsoever character; but the breach is not being filled, and until the government can care for its own it is up to the volunteer to make the sacrifice, as in the case of the Red Cross, the National Tuberculosis Association and the various other volunteer health and welfare agencies that have rendered such valiant service heretofore.

Local Committees for the San Antonio Meeting.—We are pleased to publish herewith the list of local committees for the San Antonio meeting, the date for which has not yet been set by the Board of Trustees. This information seems advisable at this time. There may be those who desire to correspond with the chairman of some of the committees, particularly in the matter of hotels, exhibits, alumni banquets, public lectures, Woman's Auxiliary, and golf. We are assured by President Dr. Cunningham that any member of any of the committees is fully competent to handle the whole problem of his committee, which is by way of bragging just a bit. We anticipate that his hand will be called—and that he will make good. The problem of handling the annual sessions of the State Medical Association is yearly growing larger and more intricate. It is, indeed, a task to plan and carry out a procedure that will meet all requirements. That satisfection has generally been forthcoming is an evidence of devotion and sacrifice rather than ease of accomplishment.

The list follows:

Committee on Arrangements—Dr. W. H. Hargis, chairman; Drs. R. E. Bowen, W. B. Russ, Thos. Dorbandt, D. Berrey.

Committee on Finance.—Dr. E. V. DePew, chairman; Drs. S. T. Lowrey, B. F. Stout, L. M. Weinfield, C. L. Milburn.

Committee on Halls.—Dr. S. C. Applewhite, chairman; Drs. W. S. Hamilton, R. S. Adams, C. E. Scull, J. L. Pridgen.

Committee on Exhibits.—Dr. Harry Leap, chairman; Drs. R. H. Jackson, G. L. Johnson, W. M. Barron, John Goode.

Committee on Lanterns—Dr. W. H. Cade, chairman; Drs. C. F. Lehman, P. I. Nixon, Cole Kelley, G. A. Pagenstecher.

Committee on Alumni Banquets.—Dr. Roy T. Goodwin, chairman; Drs. Dudley Jackson, J. A. McIntosh, George Paschal, Homer T. Wilson.

Committee on Hotels—Dr. J. W. Nixon, chairman; Drs. E. W. McCamish, Thad Shaw, S. S. Beakley, L. K. Beck.

Committee on Entertainment.—Dr. I. L. McGlasson, chairman; Drs. O. H. Judkins, Minnie O'Brien, H. F. Clark, J. H. Bigger, Mary Harper, J. A. Watts, L. B. Jackson, C. M. Cotham, W. E. Burke, C. A. R. Campbell, O. H. Timmons, M. A. Forbes.

Committee on Golf—Dr. J. H. Burleson, chairman; Drs. E. M. Sykes, F. L. Paschal, J. S. Steel, C. C. Cade.

Committee on Woman's Auxiliary.—Mrs. J. H. Bigger, chairman; Mesdames F. C. Walsh, H. McC. Johnson, J. A. Watts, W. E. Nesbit, Homer T. Wilson, E. W. McCamish, C. E. Scull.

Committee on Public Lectures.—Dr. C. C. Cade, chairman; Drs. C. S. Venable, W. E. Nesbit, T. L. Moody, P. G. Bowen.

Introducing Dr. Venable.—We are pleased to announce the employment of an assistant to the Secretary-Editor. We are doubly pleased to be able to introduce to our readers

DR. D. R. VENABLE.

and members, Dr. D. R. Venable of Fort Worth, the incumbent. The accompanying likeness is very good; in fact, it closely approximates flattery—strange as that may seem. He has many friends in the State who will recognize the picture, however, in spite of the "touching up" it has received. They will likewise be pleased to know that their friend and compatriot has been thus signally honored; those of them who know what he is up against will extend their sympathy, unreservedly. In all seriousness, the Trustees are gratified that they have been able to secure the services of Dr. Venable, and that a long felt want is about to be satisfied. We bespeak for Dr. Venable the same consideration at the hands of our members and readers with which the Secretary-Editor has always been favored.

Dr. Venable was born in Sherman, Texas, August 1, 1892. He is younger than he looks. He was educated in the public schools of Sherman, receiving the degree of Bachelor of Arts from Austin College, at that place, in 1912. His medical education was secured in the University of Texas, from the Medical Department of which he graduated in 1916. Following his graduation, he was assigned an internship in the City Hospital in Cleveland, Ohio, (1916-1917), of which institution he became the assistant medical superintendent in 1917. He resigned this position a short while later to enter the Army, reporting to Camp Bowie, Fort Worth, in October of the same year. At Camp Bowie he was assigned to duty with the 144th Infantry, with which organization he served overseas, with distinction. In February, 1919, he was promoted to the rank of captain and assigned to duty with the 111th Field Signal Battalion, with which organization he served until he was mustered out of the service, in July, 1919.

Dr. Venable was married in 1919. His wife was Miss Esther B. Lewis of Akron, Ohio. Returning to Fort Worth directly after his marriage, he entered general practice. In 1919 he accepted commission as Acting Assistant Surgeon of the U. S. Public Health Service and was assigned to duty with the Bureau of War Risk Insurance, subsequently the Veterans' Bureau. While on duty in this capacity he organized the Fort Worth sub-district office and served through three changes of administration as sub-district medical officer in charge. When the sub-district office in Fort Worth was closed, Dr. Venable was assigned to duty in Oklahoma City, Okla. Following this move, he resigned his position as soon as he could properly do so, returning to Fort Worth for the resumption of his practice. It was at this time that his services were secured for the State Association.

First Aid to the Doctor.—In the armamentarium of the practicing physician there are several items of considerable importance, two of which we desire to mention at this time. It will probably surprise the reader to know just what these are. Their importance is in

no wise proportionate to their cost. We refer to the *medical dictionary* and the *anatomical chart.*

It is difficult to understand how the doctor can get along without a modern, up-to-date (as nearly as possible) medical dictionary. He most certainly does not do himself justice, nor does he render value received to his patients, if he has not ready at hand a guide to the meaning of the many new words he discovers in the course of his reading. Not understanding the words, he will not understand the article he is reading. If he does not read and comprehend current medical literature he speedily becomes a back number. The people would not knowingly employ a physician who is out of touch with modern advances in medicine, any more than they would purchase clothing of ancient although honorable style. We would hardly go so far as to insist that a physician who has not in his possession a modern dictionary is actually falling by the wayside, there are too many medical societies and too many opportunities that the bright mind may take advantage of to keep up to date. At the same time, a good dictionary will undoubtedly prove both an inspiration and a source of gratification.

There was a time when the doctor could hardly get along without an anatomical chart. The modern dissecting methods and more convenient and less expensive post-graduate courses, not to mention the profusely illustrated medical literature and the discussions before medical societies, have almost done away with this important aid to memory and anatomical appreciation. That is, in a sense, unfortunate, for the reason that anatomical facts are stubborn things and hard to remember, and it is easy to build up and perpetuate an erroneous impression of them. Of course, the actual dissection, frequently reviewed, is to be preferred; likewise, the dependence on anatomical charts, to the exclusion of the study of the cadaver, where such study is possible, would be unfortunate. The proper use of the anatomical chart is to refresh the memory of the physician who does not give special study to any one part of the body.

So far as we know, neither a dictionary nor an anatomical chart has been advertised in the JOURNAL of late. We are not speaking in the interest of any publisher or manufacturer. We have lately been impressed with the importance of these simple aids to the physician, and desire to pass the thought on to our readers.

The American Peace Plan.—As per promise, we are publishing a synopsis of the plan approved by the jury of award, under the Edward W. Bok offer of $100,000 for the best practicable plan by which the United States may co-operate with other nations to achieve and preserve the peace of the world. On advertising page 6 we are printing the approved ballot, by the use of which those who are interested and have not already done so, may express their approval or disapproval of the plan agreed upon. It will be understood that voters have the right and privilege of expressing their views at length, if they differ in any important respect with the plan. According to the ballot, the plan is to be approved or disapproved *in substance.* The more extended discussion should go to the same address as the ballot, but under separate cover.

The purpose of Mr. Bok in this whole movement is "to reflect in a practicable plan the dominating national sentiment as expressed by the large cross-section of the American public taking part in the award." It is extremely doubtful whether this purpose will be attained. Studying the full text of the plan, which is fairly well synopsized in the version printed below, we are convinced that those who are in a general way favorable to the League of Nations will vote *yes,* and those opposed will vote *no.* The differences between this plan and the League of Nations idea are such as could have been agreed upon long ago. It seems to be now merely a question as to whether Mr. Bok by this referendum can force the Senate of the United States to recede from its opposition to the League of Nations, and permit our participation on some practical basis. Perhaps this can be done. It seems that there is a weakening in some quarters, as the public conscience becomes aroused. It will be remembered that the vote is not on the desirability of peace, or the horrors of the war; the idea is, presumably, to determine whether the plan advocated will *help secure universal peace.*

Perhaps we have been anticipating too much, but the truth is, we are somewhat disappointed. Believing in the League of Nations as a helpful if not essential agency in holding the governments of the world in check, we will probably vote *yes,* but it seems to us that we could offer some better suggestions for less money. For instance, any agreement we may make with other nations for mutual control will be entered into by the said other nations with as many reservations, and probably in the same particulars, as we make. It won't be much of an agreement if we insist upon the Monroe Doctrine. Likewise, it won't be much of an agreement if we do not assume our share of the burden of en-

forcing it. It seems to us, from our position up the political tree, that there would be more reservation than agreement, after a time. Neither do we have much confidence in a law with no *strong arm* to enforce it. The plan advocated does not permit military force, nor does it permit *economic* force. As a matter of practical fact, if a majority of the nations of the world would agree not to furnish supplies of any sort to a minority which insisted upon fighting, there would not be much fighting. At least, there would not be so many wars. We have a notion, also, that the nation which has nothing to risk, and nothing to offer except argument, has very little business in a league, or group of whatever name or character, designed to make somebody behave—at least, if it is to have anything like equal representation.

However all of that may be, and admitting our incapacity for handling such a large subject, the synopsized plan follows:

I. ENTER THE PERMANENT COURT.

That the United States adhere to the Permanent Court of International Justice for the reasons and under the conditions stated by Secretary Hughes and President Harding in February, 1923.

II. CO-OPERATE WITH THE LEAGUE OF NATIONS, WITHOUT FULL MEMBERSHIP AT PRESENT.

That without becoming a member of the League of Nations as at present constituted, the United States Government should extend its present co-operation with the League and propose participation in the work of its Assembly and Council under the following conditions and reservations:

SAFEGUARDING OF MONROE DOCTRINE.

1. The United States accepts the League of Nations as an instrument of mutual counsel, but it will assume no obligation to interfere with political questions of policy or internal administration of any foreign state.

In uniting its efforts with those of other States for the preservation of peace and the promotion of the common welfare, the United States insists upon the safeguarding of the Monroe Doctrine and does not abandon its traditional attitude concerning American independence of the Old World and does not consent to submit its long established policy concerning questions regarded by it as purely American to the recommendation or decision of other Powers.

NO MILITARY OR ECONOMIC FORCE.

2. The only kind of compulsion which nations can freely engage to apply to each other in the name of peace is that which arises from conference, from moral judgment, from full publicity, and from the power of public opinion.

The United States will assume no obligation under Article X in its present form, or under Article XVI in its present form in the Covenant, or in its amended form as now proposed, unless in any particular case Congress has authorized such action.

The United States proposes that Articles X and XVI be either dropped altogether or so amended and changed as to eliminate any suggestion of a general agreement to use coercion for obtaining conformity to the pledges of the Covenant.

NO OBLIGATION UNDER VERSAILLES TREATY.

3. The United States will accept no responsibilities under the Treaty of Versailles unless in any particular case Congress has authorized such action.

LEAGUE OPEN TO ALL NATIONS.

4. The United States Government proposes that Article I of the Covenant be construed and applied, or, if necessary, redrafted, so that admission to the League shall be assured to any self-governing State that wishes to join and that receives the favorable vote of two-thirds of the Assembly.

DEVELOPMENT OF INTERNATIONAL LAW.

5. As a condition of its participation in the work and counsels of the League, the United States asks that the Assembly and Council consent—or obtain authority—to begin collaboration for the revision and development of international law, employing for this purpose the aid of a commission of jurists. This Commission would be directed to formulate anew existing rules of the law of nations, to reconcile divergent opinions, to consider points hitherto inadequately provided for but vital to the maintenance of international justice, and in general to define the social rights and duties of States. The recommendations of the Commission would be presented from time to time, in proper form for consideration, to the Assembly as to a recommending if not a law-making body.

The American Congress on Internal Medcine, conducted by the American College of Physicians, will be held in St. Louis, February 18-24, 1924, both dates inclusive. It is probably well known that this is the counterpart of the American College of Surgeons, with its Congress on Surgery. We feel sure that Texas Physicians who are eligible to Fellowship in the American College of Physicians, or to attend the Congress, have already been informed, but it is our understanding that the medical profession at large is eligible to attend the Congress and hear the lectures on pertinent medical subjects by eminent American and even foreign physicians.

The profession of St. Louis is particularly anxious that the Congress be an unlimited success, because of the honor extended them in the election of Dr. Elsworth Smith as president of the Congress. In this aspiration and appreciation, the profession of the South joins quite heartily.

Hotel Chase, one of the newest, largest and best equipped hotels of the city, has been selected as headquarters. The other hotels of the city have placed their accommodations unreservedly at the disposal of the local committee in charge of the Congress. Those who desire to make reservations, or desire to know anything in regard to the Congress, should address the president, Dr. Elsworth S. Smith, Humboldt Bldg., St. Louis, Mo. Dr. Frank Smithies, 1002 North Dearborn Street, Chicago, Ill., is secretary of The American College of Surgeons, to whom communications relating to that organization should be addressed.

ORIGINAL ARTICLES

THE INTERPRETATION OF LABORATORY FINDINGS IN THE DIAGNOSIS AND TREATMENT OF SYPHILIS.*

BY

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The omnipresence of syphilis is today realized by every member of the medical profession. There is no organ or tissue in the human body that can possibly escape the ravages of syphilis. Directly, it seldom causes death, but as a contributing factor in mortality it is an important agent. A consideration of the vast pathology of the disease will at once reveal the fact that syphilis, with its multitude of complications, is not a special branch of medicine. It is a disease which the general practitioner and the public health worker, see in their everyday life, and they necessarily assume the responsibility of the care of the syphilitic and of the welfare of the public.

Knowing that the duty of the modern sanitarian is to take active measures to check disease, you may wonder why a discussion of laboratory methods should enter the section of Public Hygiene, and why such methods are important from a public health standpoint.

You will agree with me that the danger of syphilis to the public decreases or increases in proportion to the adequacy or inadequacy of the diagnosis and treatment of the disease.

"The danger of syphilis to the general public has been investigated by Blaisdell, who selected 60 cases in the early stages of the disease as they presented themselves in the skin department of the Boston Dispensary. Blaisdell found that between the time of their infection to the time of their first appearance in the clinic for treatment these 60 cases exposed 34 people to the disease by coitus, 442 through family or boarding-house life, and 651 by occupational association, or 1,227 people in all. Of the 476 people so exposed by coitus or family life, 5 were definitely ascertained to have become infected, 4 through intercourse and 1 by being kissed by the mother, while of the remaining exposed persons no definite information was obtainable. It may be assumed that these 60 cases of fresh, untreated syphilis are the direct result of 60 other definitely active foci of infection in the community. Of these 60 foci only 2 were brought under medical control as the result of investigation of the source of infection,"[1]

I have collected from the Galveston Venereal Clinic 40 cases, which show definitely that the danger of syphilis to the general public health increases in proportion to the inadequacy of diagnosis of the disease. Lack of time forbids me to give even a brief history of all of these cases. However, three cases will be recited as an example:

Case No. 1.—J. M., male, white, single, age 26, reported to his physician with an abrasion on the foreskin. The physician assured him that the lesion was nothing but a scratch. The patient had sexual intercourse on three different occasions with three different persons, up to the fortieth day. On the forty-sixth day the patient developed a maculopapular eruption. The Wassermann was positive.

Case No 2.—H. E., male, white, married, age 39, reported to a physician with ulceration of the tongue. Silver nitrate was used locally, with no improvement. A month later he reported to the clinic with a distinct syphilitic history. A Wassermann test was positive, and under antiluetic treatment the ulcers disappeared.

Case No. 3.—T. R., male, white, single, age 25, reported to his physician with a small ulcer on the genitalia. A diagnosis of herpes was made. Twenty-six days later the secondary eruption developed.

These cases reveal the following facts:

1. The public ignorance of the seriousness of genital lesions.
2. The failure of the public to report to a physician or clinic.
3. In the cases which presented themselves to physicians, a careful examination was not made to determine whether the lesions were syphilitic or non-syphilitic.
4. Advantage was not taken of the laboratory methods available today for the recognition of syphilis.

Prior to 1900, we had no laboratory methods by which we could recognize and treat syphilis. The physician of those days depended for diagnosis mainly on clinical manifestations which, unfortunately, make their appearance late in the disease, thereby causing much suffering to the patient and spreading the disease to others, either directly or indirectly. Although they had astonishingly definite views of the syphilitic virus and its action upon the human body, the old syphilographers had no certain methods by which they could diagnose and treat syphilis and, consequently, many syphilitic lesions were passed unrecognized. Many unfortunates in whom really there was no syphilis were condemned and made to join the army of syphilitics, while others who were syphilitic were pronounced free of the disease.

Since 1903, Metchnikoff transmitted syphilis to monkeys, Schaudinn discovered and demonstrated the spirocheta pallida, Wassermann discovered the complement fixation test bearing his name, Noguchi cultivated the spirocheta pallida, and others demonstrated the spirocheta pallida in the brains and cords of paretics and tabetics, respectively. With these discoveries, we have developed

*Read before the Section on State Medicine and Public Hygiene, State Medical Association of Texas, Fort Worth, May 9, 1923.

1. Vedder, Edward B.: Syphilis and Public Health, page 23.

three laboratory tests of the utmost importance, which done and interpreted properly are very valuable in the diagnosis and treatment of syphilis: (1) The demonstration of the spirocheta pallida in syphilitic lesions by means of the dark field illuminator; (2) the blood Wassermann reaction, and (3) the examination of the cerebro-spinal fluid.

Although the Wassermann test has developed into one of the most important tests in the diagnosis and treatment of syphilis, it has also met with adverse and bitter criticism on the part of many physicians, probably because of the undue reliance placed upon it.

An oral questionnaire was submitted to several physicians as to the value of the blood Wassermann reaction. A variety of answers was obtained. These may be classified into four different divisions: (1) Those who believe in the Wassermann test, especially if performed by an expert serologist; (2) those who accept the Wassermann report only when taken in conjunction with clinical symptoms and signs; (3) those who have no faith in the Wassermann test because oftentimes negative reports are obtained when syphilis is present, and (4) those who have faith in the Wassermann reaction, but who claim that it is costly and expensive and, therefore, out of reach of the patient. The argument advanced by this class is of no little value, as may be readily seen by examining Table No. 3.

These discrepancies, I believe, are due: (1) To the limitations of the Wassermann test and to the failure on the part of physicians to consider these limitations; (2) to the fact that the Wassermann reaction is one of the most delicate tests we have today, and that the slightest error in technique will alter the results; (3) to the fact that oftentimes the Wassermann test is performed by persons inexperienced in serology; (4) to the fact that the Wassermann test is not standardized; (5) to the fact that there is a lack of municipal laboratories for the performance of the Wassermann test, and (6) to the fact that the value of the Wassermann test is not fully appreciated and properly interpreted.

For example, we see that in the early primary stage of syphilis the Wassermann reaction is not of much value, as it does not become positive before the third or fourth week of the existence of the chancre. Therefore, a negative blood Wassermann reaction during the first three or four weeks of the infection or, even longer, is not of much value and should not be relied upon. During this period the only reliable way to determine the nature of the lesion is to demonstrate the organism of syphilis with the dark field illuminator. However, in the presence of suspicious sores in which the spirocheta pallida cannot be demonstrated, one should resort to the blood Wassermann test, which should be performed every two weeks up to the third or fourth month. If during that time the Wassermann returns are all negative, the patient can be safely discharged as non-syphilitic. Table No. 3 clearly shows how easily a patient can be discharged from observation as non-syphilitic after one or two negative blood Wassermann reactions are obtained. It is not at all unusual that a negative blood Wassermann is obtained a few days prior to the appearance of secondary lesions.

During the secondary stage of syphilis the blood Wassermann reaction is positive in

TABLE No. 1—THE BLOOD WASSERMANN IN RELATION TO DIAGNOSIS.

This table shows the limitations of the blood Wassermann reaction and, therefore, the importance of the clinical recognition of syphilis.

Stage	History	Blood Wassermann	Diagnosis	Recommendations
Primary	Sore present or healed	Positive	Syphilis	Commence treatment
		Weak or doubtful	None	Repeat blood Wassermann
		Negative	None	Repeat blood Wassermann up to third or fourth month
Secondary	History of sore	Positive	Syphilis	Commence treatment
	Symptoms and signs of Syphilis	Weak or doubtful	Syphilis	Commence treatment
		Negative	None	Repeat blood Wassermann
Tertiary	History of Syphilis	Positive	Syphilis	Commence treatment
	Symptoms present	Negative	May be Syphilis	Repeat blood Wassermann; commence treatment if necessary; watch effect of treatment and examine blood frequently (provocative Wass.)
Latent	History of Syphilis	Positive	Syphilis	Same as tertiary
	Symptoms present	Negative	May be Syphilis	Same as tertiary
	No history of syphilis	Negative	None	None
	No symptoms	Positive	None	Make diagnosis with caution; look for other evidences of Syphilis; repeat blood Wassermann, and if persistently positive, commence treatment
Central Nervous System	History of Syphilis	Negative	May be Syphilis	Examine spinal fluid and manage case accordingly.
	Symptoms referred to nervous system	Positive	Syphilis	Examine spinal fluid and commence treatment intravenously or intraspinally, according to indications

practically all cases. However, even in this most florid stage of the disease, a negative Wassermann sometimes creeps in. In such cases the test should be repeated, and if still negative, the diagnosis of secondary syphilis must be made with caution.

In the tertiary and latent stages the blood Wassermann may be positive or negative. It is during these stages that the significance of the Wassermann test must be fully appreciated and properly understood. The results of the test during these stages vary considerably, and it is because of these variations that it has lost much of its popularity among physicians. During these stages the physician must study each case individually. Clinical symptoms and signs in conjunction with a negative or a positive Wassermann reaction, are of great value in the diagnosis and treatment of the disease.

Let us for a moment discuss the possibilities and limitations of the blood Wassermann test as regards diagnosis, and in this connection I wish to call your attention to Table No. 1. The following observations may be pertinent:

1. We should remember that there is no stage of syphilis in which we are able to obtain a hundred per cent positive reactions, and that oftentimes we are compelled to commence treatment in spite of the negative laboratory findings.

2. A positive blood Wassermann reaction properly done, especially when taken in conjunction with clinical symptoms and signs, is evidence of syphilis, excluding, of course, certain diseases which according to some workers give a positive Wassermann.

3. In cases in which we obtain positive Wassermanns but in which there is no history, symptom or sign of syphilis, caution must be exercised in making a diagnosis. In all such cases the test should be repeated, a careful examination made for other evidences of syphilis and treatment begun only when we are satisfied in making a diagnosis of syphilis.

4. A patient may present himself to the physician complaining of some systemic disease not necessarily syphilis. In such cases the physician must not assume that the disease present is syphilis, but should make a thorough examination to determine the exact nature of the ailment, whether it is syphilitic or not. In many cases of this character the physician assumes that, in view of the positive blood Wassermann reaction, the disease must be due to syphilis. Treatment is commenced and the condition of the patient does not improve, and in some cases it becomes worse. There is a possibility which we should not forget, of a patient having syphilis and also some other disease. Treatment in such cases should be given cautiously.

5. Weakly positive and doubtful reactions are of no value unless there is a history of syphilis and the patient has had treatment. However, in all such cases the patient should be under observation and the Wassermann test repeated.

6. A negative blood Wassermann does not necessarily mean absence of syphilis, and for this reason the question of the clinical recognition of the disease is made of the greatest importance.

7. In early primary syphilis, the blood Wassermann reaction is usually negative, as may be seen by Table No. 3. Therefore, in suspicious sores in which the spirocheta pallida is not demonstrated, the blood Wassermann test should be done frequently until the third or fourth month. If at the end of that period the Wassermann is nega-

TABLE No. 2—THE BLOOD WASSERMANN IN RELATION TO TREATMENT.

One course of arsenicals should consist of 10 injections of arsphenamine or 16 injections of neo-arsphenamine. One course of mercury should consist of 20 intramuscular injections of mercury. A negative blood Wassermann after a brief course of treatment is of no value. Therefore, interpret the Wassermann at the end of treatment only.

Stage	Treatment	Blood Wassermann Reaction (at end of treatment)	Recommendations
Primary—Wassermann negative before treatment	2 courses of arsenicals and mercury.	Negative Weak or doubtful	Blood Wassermann; at end of 3, 6, 12 24 months, if positive, give more treatment Give treatment until Wassermann becomes negative
Primary—Wassermann positive before treatment.	3 courses of arsenicals and mercury.	Negative Weak or doubtful Positive	Same as above
Secondary	3 courses of arsenicals and mercury.	Negative Weak or doubtful Positive	Same as in primary stage.
Tertiary or Latent	2 courses of arsenicals and mercury.	Negative Weak or doubtful Positive	Give short courses of treatment for 3 years, or as indicated
Central Nervous System	2 courses of arsenicals and mercury.	Negative Weak or doubtful Positive	Same as in Tertiary or Latent stage, only 1. Give treatment with caution 2. Spinal puncture may be necessary for diagnosis 3. Intraspinal treatment may be necessary

tive, we can safely discharge the patient as non-syphilitic.

8. In cases with clinical symptoms of syphilis but a negative blood Wassermann reaction, the test should be repeated after provocative injections, and if still negative, treatment may be continued, basing the diagnosis on clinical symptoms and signs.

9. In syphilis of the nervous system we often obtain a negative blood Wassermann reaction. This examination alone is of no value; in these cases the spinal fluid should be examined.

10. In late and treated cases, very often the blood Wassermann is negative. If there are evidences of the disease, the test should be repeated and sometimes treatment instituted regardless of the negative blood findings.

In Table No. 4, an attempt is made to show that the Wassermann test is of great prognostic value. A patient with a syphilitic lesion presents himself to the physician. The dark field examination reveals the spirocheta pallida. A Wassermann test is done before treatment is commenced, and another, after one or two injections of arsenicals is given. If both of the tests return negative, the prognosis is excellent, the patient having received treatment before a positive Wassermann was obtained. On the other hand, the dark field examination is positive, the Wassermann reaction before treatment is commenced is negative, but the reaction after one or two injections of arsenicals are given is positive. In this case the prognosis is not so good. Again, we have a positive dark field examination and a positive Wassermann reaction before treatment is commenced. In this case the prognosis is not so good as in either of the cases mentioned above, and therefore more treatment will be needed to effect a cure.

TABLE No. 3—THE BLOOD WASSER MANN IN PRIMARY SYPHILIS.

Showing the limitations of the Wassermann test in primary syphilis. Therefore, employ the dark field illuminator whenever possible.

Case	First Week	Second Week	Third Week	Fourth Week	Fifth Week	Sixth Week	Seventh Week	Eighth Week	Ninth Week
1	Negative			Positive					
2	Negative		Negative			Negative		Positive	
3		Negative		Negative	Positive				
4	Negative		Negative	Positive					
5		Negative		Negative		Negative	Positive		
6		Negative	Positive						
7	Negative				Positive				
8		Positive							
9		Negative	Negative		Positive				
10		Negative		Negative		Negative	Positive		
11		Negative		Negative	Positive				
12		Negative		Positive					
13	Negative	Negative	Positive						
14		Negative		Negative		Negative		Negative	Positive
15		Negative		Negative		Positive			
16			Negative			Negative	Positive		

The blood Wassermann reaction is used as a guide in the treatment and cure of syphilis, and in this connection I wish to call attention to Table No. 2. As to the effect of the treatment on the Wassermann reaction we obtain many different and oftentimes conflicting results. Thus, we find that sometimes two or three injections of the arsenicals are sufficient to change a positive into a negative Wassermann, even in the most florid cases of syphilis. The question naturally arises, How much treatment does the patient need? How long must the treatment be continued after we obtain a negative Wassermann reaction? At present we know little as to the amount of treatment needed to effect a cure.

Personally, I pay no attention to the Wassermann reaction during the first year of treatment, or after a brief course of treatment, unless it be for the purpose of study. A negative Wassermann during this period is of no absolute value, and is not an indication for the discontinuance of treatment. Only

TABLE No. 4—THE BLOOD WASSERMANN IN RELATION TO PROGNOSIS.

Showing the importance of early diagnosis and treatment of syphilis.

Stage	Dark Field Examination	The Blood Wassermann	Prognosis
Primary	Positive	Negative before treatment Negative after 1 or 2 injections of arsenicals	Excellent
	Positive	Negative before treatment Positive after 1 or 2 injections of arsenicals	Fair
	Positive	Positive before treatment	Not so good

after a course of treatment such as is outlined on Table No. 2 is given, can we properly interpret the Wassermann reaction. Many of us have had patients who received sufficient treatment to convert positive Wassermann reactions into negative ones, and who gave negative tests for the next year or two, only to give positive reactions on the second or third year. If these patients had been given one or two more courses of treatment during the first or second year, regardless of whether the Wassermann reaction was positive or negative, probably they would have been cured and their Wassermann would never have been positive again.

Can a blood Wassermann test tell us when a patient is cured of syphilis? In this connection let us remember that the blood Wassermann cannot and should not be used as the only evidence of cure in syphilis. From all the knowledge of the disease we have today, we have no method by which we can absolutely determine when syphilis is cured. However, we can arrest the disease, relieve the patient of symptoms and obliterate the infectivity of the disease. We are never justified in dismissing our patients until the following conditions are fulfilled:

1. The patient must have had a reasonable amount of treatment, not merely sufficient treatment to convert a positive Wassermann into a negative one.

2. The patient must give a negative blood Wassermann test for two or three years after treatment is discontinued.

3. The patient must be free of clinical symptoms and signs.

4. Examination of the cerebro-spinal fluid must be negative.

Of course, only cases in which treatment commences early in the disease are cured, as curability is proportionate to the earliness and vigor of the treatment instituted. In advanced cases of syphilis, in which organs have been damaged beyond repair, we have no hope for a cure. All we can do in such cases is to check the destructive processes of the disease and to that extent relieve the patient of his symptoms.

In syphilis, the primary object of the physician should be to render the patient non-infectious, in order that the public may be protected. The obliteration of infectivity in syphilis depends largely upon the time the diagnosis is made. If the diagnosis is delayed, the patient is a danger to the public health, for upon the diagnosis depend the infectivity, prognosis and subsequent course of the disease. Therefore, early diagnosis, prolonged treatment and final examination of the patient, are important procedures in the treatment of syphilis. During the whole course of the disease laboratory examinations are indispensable. To institute early treatment, early diagnosis must be made with a dark field illuminator or the Wassermann test, and to pronounce a patient cured, examination of the blood and of the cerebro-spinal fluid must be made.

To the general practitioner falls the responsibility of the early recognition and proper management of syphilis. On him also falls the responsibility of becoming a sanitarian in order to protect the public health. Therefore, he must be prepared to utilize all methods available for the proper management of the disease.

CONCLUSIONS.

1. Syphilis is one of the most prevalent diseases we have today, and the physician must play the part of a sanitarian in order to check its progress.

2. In the dark field examination, the blood Wassermann test and the examination of the cerebro-spinal fluid, we have the most formidable weapons in combatting syphilis.

3. These examinations are very delicate and have their limitations. Therefore, their significance must be fully appreciated and correctly understood.

4. Specimens for examination should be sent only to expert serologists who understand the technique of these tests.

5. The diagnosis of syphilis should be based not on a positive blood Wassermann alone, but on other evidences of the disease as well.

6. A single negative blood Wassermann in cases suspected of being syphilis, is of no value. The test should be repeated frequently, and the patient should be kept under observation.

7. A positive blood Wassermann reaction does not always explain the different ailments of which a patient may complain. Other diseases may cause similar symptoms.

8. A negative blood Wassermann during treatment, or after a brief course of treatment, is of no absolute value. It is not an indication for the discontinuance of treatment.

9. The blood Wassermann reaction should never be used as the only evidence of cure in syphilis.

10. Municipal laboratories should be established where physicians can send specimens for examination.

11. The primary object of the physician should be to render the patient non-infectious in order that the public may be protected.

THE ROUTINE BLOOD WASSERMANN REACTION IN PRIVATE PRACTICE.*

A STATISTICAL STUDY BASED ON AN ANALYSIS OF 1,229 CASES.

BY

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This report covers the results obtained in the routine use of the Wassermann reaction on private patients. No effort has been made to select cases suspected of being syphilitic. All patients were tested irrespective of past history or lack of demonstrable luetic symptoms. The study was made for several reasons: First, we were anxious to obtain an idea of the presence of syphilis in our practice, which is composed largely of the so-called middle classes; second, there seems to be such a difference of opinion as to the true value and the interpretations of the Wassermann reaction that we wanted to test its validity as closely as possible in such a small number of cases.

Wassermann at first thought the test was a specific reaction, and it is fortunate that he was working before the time of the discovery of the spirochete and did not realize that normal organs were more useful as antigens than syphilitic organs, or he might not have continued his observations. However, the lack of specificity does not impair its usefulness. Neisser has described a substance he has called "reagin," which has the property either of modifying or uniting with certain lipoid substances. This reagin is elaborated by the cells which are acted upon by the spirochetes. "Reagin" is probably not a lipoid itself, but it has the property of binding complement in the presence of a solution of lipoids. It is not an antibody because the amount of reagin present seems to have a direct relation to the intensity of infection, and in latent stages of syphilis it may exist in such small quantities as to not give a positive reaction. If it were a true antibody and able to destroy the spirochetes sufficiently to so markedly ameliorate the disease as to produce quiescence or latency, the Wassermann reaction ought to be the more strongly positive. The reaction, then, is an index of the degree of infection rather than of immunity.

FACTORS INFLUENCING THE WASSERMANN REACTION.

There are certain factors we must consider which may influence the test, and a proper understanding of these factors may help us in interpreting our results. These factors are:

(1) Blood serum containing bile will at times give a false positive reaction.

(2) Contaminated sera with *Staphylococcus aureus*, or *Bacillus subtilis*, may give positive reactions. This is a strong plea for asepsis.

(3) After ether or chloroform anesthesia a positive reaction may transiently occur.

(4) After the use of alcohol an otherwise positive serum will become negative, which persists for several days following the use of even small amounts of alcohol. It is wise to always question a patient regarding the use of alcohol.

(5) Collecting the blood too soon after a meal may give a false reaction.

As to the other diseases which may give positive Wassermann reactions there is, indeed, a great variance in opinions. Kolmer, who has had a great deal of experience, is of the opinion that false positives, with the exception of cases of frambesia, are indicative of error of technic. However, it is rather commonly agreed that a positive Wassermann reaction may occur in frambesia, leprosy (nodular type), febrile pneumonia, febrile malaria, relapsing fever in the acute stage and, occasionally, in scarlet fever and after ether or chloroform anesthesia. I feel certain these conditions fully cover the possibilities, and am inclined to favor Kolmer's contention rather than to admit the likelihood of false positive reactions in the great number of diseases some observers have reported. This discrepancy of opinion is a strong argument for the early standardization of the Wassermann reaction.

ANTIGEN.

The cholesterinized reinforced antigen was used in our tests, because we knew it to be highly sensitive and delicate, and believed it to be superior to either the alcoholic extracts of spirochete-bearing organs, the plain alcoholic extracts or the acetone insoluble lipoids. With the newer Kolmer technic we are not familiar. The cholesterinized antigen was adopted by the American Expeditionary Forces and the British Expeditionary Forces, and is the antigen used in the Massachusetts General Hospital, Peter Bent Brigham Hospital, Boston City Hospital and the Boston Board of Health. Because of its sensitiveness we have felt inclined to disregard faint positives, although all tests were made in our own laboratory by a trained serologist, and technical error has been reduced to a minimum. In practically all cases only one test was made. Since we were trying to determine the reliability of

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the test as an index to diagnosis, and since the great majority of practitioners will have only one test made, this fact may be of value in understanding the importance of making routinely even one test.

In making one test only we, of course, considered the existence of a normal daily variation in the complement fixation power of the luetic serum. In cases of suspected syphilis several additional tests were made, after provocative treatment. These tests threw no additional light on the problem and our experience with the provocative test was disappointing.

CLASSIFICATION.

We have classified the diseases under the system affected, with the intention of arriving at some idea of the relative ratio of syphilis noted in the various organs.

TABLE I—RESPIRATORY SYSTEM.

	Diseases.	Negative	Positive I	II	III	IV
1.	Acute Pharyngitis	1	0	0	0	0
2.	Chr. Pharyngitis	1	0	0	0	0
3.	Subacute Laryngitis	1	0	0	0	0
4.	Chr. Tonsillitis	31	0	0	0	0
5.	Dysphonia	1	0	0	0	0
6.	Acute Tracheitis	2	0	0	0	0
7.	Chr. Bronchitis	72	0	0	0	0
8.	Asthma	7	0	0	0	0
9.	Carcinoma of Lungs (secondary)	1	0	0	0	0
10.	Pulmonary Tuberculosis	162	0	1	0	1
11.	Mediastinal Sarcoma	1	0	0	0	0
12.	Pollinosis	3	0	0	0	0
13.	Frontal Sinusitis	8	0	0	0	0
		291	0	1	0	1

In the respiratory diseases (Table No. I) only two positive reactions were obtained; in one case a plus two and in the other a plus four, reaction. In both cases tubercle bacilli were found in the sputum, and in the patient with the four plus reaction a definite history of syphilis was obtained; in the patient with the two plus reaction, no past history or present symptoms were found. A control test in both cases showed the same positive results. If we grant that both of these cases were luetic, we find an evidence of the positive Wassermann in only two out of one hundred and sixty-four cases (1.2%) of pulmonary tuberculosis. This would not indicate a great prevalence of positive reactions in the tuberculous.

TABLE II—GASTRO-INTESTINAL SYSTEM.

	Diseases.	Negative	Positive I	II	III	IV
	GASTRIC—					
1.	Gastritis, acute	3	0	0	0	0
	Chronic, subacid	11	0	0	0	0
	Chronic, hyperacid	36	1	1	1	4
2.	Achylia Gastrica	5	0	0	0	0
3.	Gastric Neurosis	28	0	0	0	1
4.	Gastric Ulcer	31	0	0	0	1
5.	Carcinoma	3	0	0	1	0
6.	Gumma	0	0	0	0	1
7.	Carcinoma oesophagus	0	0	0	0	0
		117	1	1	2	7
	INTESTINAL—					
1.	Gastro-enteroptosis	14	0	0	0	0
2.	Duodenal Ulcer	23	0	0	0	1
3.	Chr. Appendicitis	18	0	0	0	0
4.	Chr. Colitis	31	0	0	0	0
5.	Chr. Constipation	65	0	0	0	0
6.	Trichomonas Infection	2	0	0	0	1
7.	Rectal Fistula	2	0	0	0	0
8.	Carcinoma of Colon	1	0	0	0	0
9.	Hook Worm	1	0	0	0	0
10.	Hemorrhoids	1	0	0	0	0
11.	Post-operative Adhesions	2	0	0	0	0
		277	1	1	2	9

In the gastro-intestinal system (Table II) we were often greatly surprised at the occurrence of positive reactions when there was no past history and no outstanding signs of syphilis. In a number of instances, however, the patient, when confronted with the opinion that he was syphilitic, admitted his previous prevarication. In the cases we have classified as chronic hyperacid gastritis, we found positive reactions in seven patients, six of whom presented positive control tests and were cured of their symptoms by appropriate anti-luetic therapy. One case, with a one plus Wassermann, was evidently not syphilis, judging by the history, physical signs and subsequent negative reactions. One patient, with a marked gastric neurosis, in whom syphilis was not suspected, gave a four plus reaction, and recovered quickly under treatment. One case, with the history and Roentgen ray findings of gastric ulcer, and another of duodenal ulcer, gave four plus reactions; in both of these cases a history of previous infection was obtainable. A case, previously diagnosed by an able physician as gastric carcinoma, and with a marked filling defect in the prepyloric portion of the stomach, gave a strongly positive reaction; subsequent treatment completely relieved the condition and now, after two years, the patient is well. One patient with a trichomonas intestinalis infection, was found to have a four plus reaction. Treatment relieved a long standing arthritis, from which the patient had long ceased to hope for relief. A patient with gastric carcinoma gave a three plus positive reaction. He was very ill and a control test was not obtainable. His physician later reported his death. Whether this man had a coincident syphilis or whether his condition was due to a gastric luetic lesion, I cannot say, as death occurred quickly, without adequate, antiluetic therapy. In this system we found slightly less than 5 per cent of positive reactions, of which positive reactions 84 per cent were proved to be syphilitic.

We were greatly surprised to note the few positive reactions in this group of one hundred and forty-eight diseases of the nervous system (Table III). However, from this group we had excluded nervous diseases of apparent syphilitic origin, such as cerebro-

spinal and cerebral syphilis, and tabes dorsalis (see Table XII). One psychoneurotic without any demonstrable syphilitic signs, and without history, gave a four plus reaction. Treatment helped this man greatly, and we felt certain of the accuracy of the diagnosis of syphilis. A patient complaining of unilateral blurring of vision, diagnosed by an able oculist as being due to optic neuritis, gave a four plus reaction. No history of syphilis or other signs of the disease were found. The condition was promptly relieved by treatment. One patient, complaining of periodic headaches, gave a two plus reaction. There were no signs of syphilis demonstrable, but further questioning brought out the fact that ten years previously he had had a small abrasion on the glans penis. Treatment promptly gave relief from the headaches, which have not reappeared after the lapse of one year. Undoubtedly the routine use of the reaction aided us greatly in this group. The percentage (2%) of positive reactions was low, however.

TABLE III—DISEASES OF THE NERVOUS SYSTEM.

	Diseases.	Negative	Positive I	II	III	IV
1.	Psychoneurosis	32	0	0	0	1
2.	Melancholia	6	0	0	0	0
3.	Migraine	18	0	1	0	0
4.	Dementia Praecox	1	0	0	0	0
5.	Psychopathia Sexualis	1	0	0	0	0
6.	Neurasthenia	11	0	0	0	0
7.	Chorea	1	0	0	0	0
8.	Hysteria	1	0	0	0	0
9.	Epilepsy	13	0	0	0	0
10.	Epidemic Cerebro-spinal Meningitis	1	0	0	0	0
11.	Spinal Tumor	1	0	0	0	0
12.	Friederick's Ataxia	1	0	0	0	0
13.	Senile Dementia	1	0	0	0	0
14.	Cerebral Thrombosis	1	0	0	0	0
15.	Cerebral Hemorrhage	1	0	0	0	0
16.	Old Haemoplegia	1	0	0	0	0
17.	Pseudobulbar Palsy	1	0	0	0	0
18.	Amyotrophic Lateral Sclerosis	2	0	0	0	0
19.	Cerebellar Tumor	1	0	0	0	0
20.	Paralysis Sixth Nerve	1	0	0	0	0
21.	Vagatonia	5	0	0	0	0
22.	Paralysis Agitans	2	0	0	0	0
23.	Reynaud's Disease	1	0	0	0	0
24.	Neuritis	34	0	0	0	0
25.	Trifacial Neuralgia	4	0	0	0	0
26.	Epidemic Encephalitis	3	0	0	0	0
27.	Optic Neuritis	0	0	0	0	1
		145	0	1	0	2

TABLE IV—CARDIO VASCULAR SYSTEM.

	Diseases.	Negative	Positive I	II	III	IV
1.	Hyperpiesis	34	0	0	0	0
2.	Hypotension	1	0	0	0	0
3.	Arteriosclerosis	1	0	0	0	0
4.	Aneurysm of Aorta	10	0	1	0	6
5.	Thrombophlebitis	1	0	0	0	0
6.	Lymphangitis	1	0	0	0	0
7.	Varicose Veins	1	0	0	0	0
8.	Endarteritis Obliterans	1	0	0	0	0
9.	Angina Pectoris	4	0	0	0	0
10.	Myocarditis	7	0	0	0	0
11.	Paroxysmal Tachycardia	5	0	0	0	0
12.	Chr. Valvular Disease—					
	(a) Mitral Insufficiency	2	0	0	0	0
	(b) Mitral Stenosis	5	0	0	0	0
13.	Auricular Fibrillation	2	0	0	0	0
14.	Partial Heart Block	1	0	0	0	0
		76	0	1	0	6

In the cardio-vascular group (Table IV) we found seven positive reactions in eighty-three patients, a percentage of 8.4. In seventeen cases of aortic aneurysm, seven cases (40%) gave positive reactions; one case a two plus and six cases a four plus, reaction. In these seven cases syphilis, because of the high incidence of syphilis in aortic aneurysm, was strongly suspected. Therefore, we did not feel that the test threw added light on the situation. In fact, we felt that in this group other cases, reacting negatively, were doubtless also luetic.

TABLE V—GENITO-URINARY SYSTEM.

	Diseases.	Negative	Positive I	II	III	IV
1.	Pyelitis	26	0	0	0	0
2.	Chronic Nephritis—					
	(a) Interstitial	29	0	0	0	1
	(b) Parenchymatous	9	0	0	0	1
3.	Orthostatic Albuminuria	1	0	0	0	0
4.	Nephroptosis	3	0	0	0	0
5.	Renal Calculus	3	0	0	0	0
6.	Fibroid Uterus	6	0	0	0	0
7.	Pyosalpinx	20	0	0	0	0
8.	Retroversion Uterus	3	0	0	0	0
9.	Endocervicitis	2	0	0	0	0
10.	Laceration of Perineum	23	0	0	0	0
11.	Pollakiuria	0	0	1	0	0
12.	Chronic Prostatis	6	0	0	0	1
13.	Ovarian Cyst	1	0	0	0	0
		132	0	1	0	3

We have included gynecological diseases in the group of genito-urinary diseases for the sake of convenience and brevity (Table V). One case of pollakiuria gave a two plus reaction, but two later reactions were negative. No history or physical finding suggested syphilis. We felt in this case that the test was in error. Three cases (one of chronic intestinal nephritis, one of chronic parenchymatous nephritis and one of chronic prostatitis) gave four plus reactions. Later tests corroborated these findings. The nephritic patients gave no history of previous infections; one of them (chronic parenchymatous type) made a most remarkable recovery; the other case passed out of our observation too soon to note the outcome. The case of chronic prostatitis gave a previous history of lues, which had been treated energetically many years before. This group revealed slightly less than 3 per cent positive reactions, and we felt well repaid for our efforts, in that we are certain two cases were discovered which would have escaped diagnosis without the Wassermann test.

TABLE VI—MUSCULO OSSEOUS AND JOINTS.

	Diseases.	Negative	Positive I	II	III	IV
1.	Hernia—					
	(a) Inguinal	3	0	0	0	0
	(b) Umbilical	1	0	0	0	0
2.	Fibromyositis	28	0	0	0	0
3.	Tuberculous Arthritis	1	0	0	0	0
4.	Chr. Arthritis	32	0	0	0	0
5.	Arthritis Deformans	3	0	0	0	0
6.	Chr. Synovitis	2	0	0	0	0
7.	Tuberculosis of Spine	1	0	0	0	0

8.	Carcinoma of Spine (Sec.)	1	0	0	0	0
9.	Scoliosis	1	0	0	0	0
10.	Exostosis	1	0	0	0	0
11.	Fractured Coccyx	1	0	0	0	0
		75	0	0	0	0

As shown by Table VI, not a positive reaction was found in the group of musculo osseous and joint diseases. However, none of the cases gave a history or presented any demonstrable signs of syphilis.

TABLE VII—HEPATIC DISEASES.

	Diseases.	Negative	Positive I	II	III	IV
1.	Acute Catarrhal Jaundice	1	0	0	0	0
2.	Chr. Cholecystitis	45	0	0	0	0
3.	Cholelithiasis	6	0	0	0	0
4.	Cirrhosis of Liver, Atrophic	4	0	0	0	0
		56	0	0	0	0

In the group of hepatic diseases (Table VII) no syphilis was found nor was any suspected. The cases of atrophic cirrhosis gave definite histories of chronic alcoholism.

TABLE VIII—CUTANEOUS SYSTEM.

	Diseases.	Negative	Positive I	II	III	IV
1.	Herpes Zoster	2	0	0	0	0
2.	Eczema	3	0	0	0	0
3.	Dermatitis Herpetiformis	2	0	0	0	0
4.	Leucoplakia Buccalic	1	0	0	0	0
5.	Acne	1	0	0	0	0
6.	Lupus Erythematosis	1	0	0	0	0
7.	Angioneurotic Edema	1	0	0	0	0
8.	Erythema Perstans	1	0	0	0	0
9.	Leg Ulcer	2	0	0	0	0
10.	Chr. Urticaria	1	0	0	0	0
11.	Acute Dermatitis	2	0	0	0	0
12.	Furunculosis	2	0	0	0	0
		19	0	0	0	0

The Table (VIII) of nineteen cutaneous lesions is remarkable because of lack of positive reactions.

TABLE IX—METABOLIC DISTURBANCES.

	Diseases.	Negative	Positive I	II	III	IV
1.	Malnutrition	2	1	0	1	0
2.	Obesity	6	0	0	0	0
3.	Diabetes Mellitus	13	0	0	0	1
4.	Alimentary Glycosuria	3	0	0	0	0
5.	Gout	1	0	0	0	0
6.	Pellagra	3	0	0	0	0
		28	1	0	1	1

Among the metabolic disturbances (Table IX), two cases presenting symptoms of loss of weight and weakness with a secondary anemia blood picture, reacted positively; a one plus and a three plus. These cases gave no hint of syphilis previous to the making of the Wassermann, and recovered of their symptoms rapidly on treatment. A case of diabetes mellitus gave a four plus reaction. This brings up the question of false positives in diabetes mellitus. Williams, in a study of three hundred and thirty-seven diabetics, obtained a positive reaction in sixteen cases (4.8%), seven of which later gave negative reactions. Why false positive reactions occur is not definitely known. Coincident hypercholesteremia is apparently not a factor. These cases may really be syphilitic, or the nutritional state in diabetics, because large amounts of fats and lipoids are mobilized on a low diet. This case of diabetes gave no history of syphilis and the patient was the mother of two healthy children. She had never had any miscarriages. Treatment had no influence on the course of the disease, although it may be said she was very indifferent about it. We feel undecided about this case.

TABLE X—DUCTLESS GLANDS.

	Diseases.	Negative	Positive I	II	III	IV
1.	Hyperthyroidism	18	1	0	0	0
2.	Myxoedema	5	0	0	0	0
3.	Hypo-ovarianism	2	0	0	0	0
4.	Hypo-pituitarism	1	0	0	0	0
5.	Hyper-pituitarism	2	0	0	0	0
6.	Menopause	6	0	0	0	0
		34	1	0	0	0

Out of thirty-five ductless gland cases, one patient (3%), with hyperthyroidism, gave a one plus reaction. No history nor signs of syphilis were obtained. We feel that this man was not leutic.

TABLE XI—MISCELLANEOUS DISEASES.

	Diseases.	Negative	Positive I	II	III	IV
1.	Chr. Morphinism	1	0	0	0	0
2.	Meniere's Disease	2	0	0	0	0
3.	Pyorrhea	1	0	0	0	0
4.	Malaria	10	0	0	0	0
5.	Lymphosarcoma	1	0	0	0	0
6.	Pernicious Anemia	1	0	0	0	0
7.	Alveolar Abscess	1	0	0	0	0
8.	For Test only	7	0	0	0	0
9.	Splenic Anemia	1	0	0	0	0
10.	Chronic Otosclerosis	1	0	0	0	0
		28	0	0	0	0

In the miscellaneous group (Table XI) we have placed diseases which did not readily adapt themselves to the other groups. It is worthy of note that in ten cases of febrile malaria no positive reactions were found. Seven patients who desired the test made because they had previously been treated for syphilis, gave negative results.

TABLE XII—CLINICAL SYPHILIS.

	Diseases.	Negative	Positive I	II	III	IV
1.	Congenital	1	0	0	0	0
2.	Tertiary	7	0	0	1	7
3.	Cerebral	2	0	0	0	5
4.	Cerebro-spinal	4	0	1	0	0
5.	Locomotor Ataxia (S. F. ++++, 1 case)	4	0	0	0	0
		18	0	1	1	12

In the group of thirty-two cases of clinical syphilis (Table XII), a positive Wassermann reaction was obtained in only fourteen (44%). In four cases of locomotor ataxia no positive blood reactions were obtained. In one case a positive spinal fluid Wassermann was obtained. Since we are dealing with

blood tests only, I have not included the case with the spinal fluid Wassermann. The blood Wassermann in this case was negative, repeatedly. Certainly, too few positive reactions were found in this group.

No one can deny the great value of the Wassermann reaction in diagnosis, but there are fallacies, undoubtedly. In our series of 1,229 cases, there were 47 positive reactions, a percentage of 3.8 positive reactions. In three cases (hyperthyroidism, 1 plus; pollakiuria, 2 plus; chronic hyperacid gastritis, 1 plus), we felt the test was in error, a percentage of 6.4. In two cases (diabetes, 4 plus, and gastric carcinoma, 3 plus), we were uncertain of the validity of the test, and it was not possible to obtain another. In these cases, however, the history was against the accuracy of the tests. In malaria (febrile), pulmonary tuberculosis and malignant tumors (5 cases), no false positive reactions occurred. In one case of gastric carcinoma a questionable 3 plus reaction was obtained. It is of note that in the three false positives, the reaction was either 2 plus or less. The high percentage of positive reactions in gastro-intestinal lesions, especially those classified as chronic hyperacid gastritis, is striking. In contradistinction to this is the fact that in the 32 cases of clinically evident syphilis, 18 (56%) failed to give a positive blood Wassermann. It is likely a certain number of these patients would have given positive spinal fluid reactions. The greater number of cases (18) in which the test was expected to be positive, but was negative, impressed us forcibly, in comparison with the smaller number of false positives (3). In sixteen cases (1.3% of the total number of cases) we felt that the test definitely pointed out the diagnosis, for there was no reason to suspect syphilis. In the remaining 31 cases (2.5% of the total), the diagnosis of syphilis was possible clinically.

CONCLUSIONS.

1. The routine use of the Wassermann reaction is of great value.

2. The status of the reaction with the cholesterinized antigen, according to our experience, is as follows:

(a) A one plus does not positively indicate syphilis; (b) a two plus does not positively indicate syphilis; (c) a three plus means the presence of syphilis, and (d) a four plus reaction indicates syphilis.

3. Instead of the cholesterinized antigen being too sensitive, our experience would indicate definitely that the reverse is true; that is, that many cases of tertiary lues are not demonstrable by the reaction.

4. False positives in tuberculosis do not occur.

5. False positives in febrile malaria do not occur.

6. False positives in malignant tumors ordinarily do not occur.

7. False positives in diabetes may occur.

8. It is essential to realize that the Wassermann reaction constitutes only one method of examination, and it should be carefully correlated with the clinical findings.

9. A negative Wassermann does not mean that syphilis is not present.

ABSTRACT OF DISCUSSION.

Dr. K. M. Lynch, of Dallas: Dr. Greer suggested that the Wassermann reaction is of a great deal of value in the diagnosis of the ordinary case, regardless of whether it is suspected that syphilis is involved. His figures indicate that the Wassermann can be made of more value than it has been in these particular cases. He has been using a cholesterinized reinforced antigen, and I must say that, generally speaking, it is too sensitive. An antigen which will miss 44 per cent of clinical syphilis certainly can be depended upon to miss a considerable percentage of cases of syphilis in the non-diagnosable stage. The Wassermann in this series has not been as valuable as we would like it to be.

There is an antigen which is well recognized now as being very reliable, indeed. I refer to Kolmer's new antigen. In the last two thousand cases in which we have done Wassermanns in a routine way, we have had no reason to suspect that the test has missed a clinical case of syphilis.

Dr. Silverman: The Wassermann reaction in relation to the clinical manifestations is of interest to all of us. I am especially interested in the Wassermann reaction as it appears in diseases of the digestive system, as presented by Dr. Greer. In the stomach contents in syphilis, the acid is usually suppressed. The positive Wassermann in an ulcer is not the usual thing. It is of interest along the laboratory line that Stokes has worked out, especially relative to the involvement of the gastro-intestinal tract. In individuals who have syphilis and gastric symptoms, the syphilis involves the nervous system in as many as 40 per cent of the cases.

Dr. M. A. Wood, Houston: A patient who had been diagnosed as tuberculous, was sent to a sanitarium. She did not improve there and was sent back. She had indefinite symptoms of gastric crises. I did a Wassermann on her and got a 4 plus reaction. On treatment for syphilis the patient gained in weight until she became like a new person. As to the value of the negative Wassermann, I had a striking example in one of my laboratories. The patient worked a part of the time with me. She had a family consisting of a husband and two children, and I had repeatedly tested her blood in the laboratory, using it as a negative serum. She subsequently had a good many worries, some of the children were sick, and she developed during this time a gumma. I tried the Wassermann and got a 4-plus reaction. The case proved to be syphilis, and was probably of congenital origin. Her husband gave a negative reaction. Both children showed positive reactions, and improved on treatment.

I don't believe a 3-plus reaction should be regarded as positive unless it can be backed up with clinical symptoms. In chronic cases that are obscure in their nature, the Wassermann should be a routine procedure, and it may be that it would be of value

in many other cases, but I don't know whether it is worth while to adopt it as a routine.

Dr. Greer (closing): In reply to Dr. Lynch's statement in regard to tertiary syphilis, I will say that the experience of those who have been doing Wassermanns in such cases, is that tertiary syphilis shows a relatively low reaction.

I agree with Dr. Silverman. My impression is that in the established cases of syphilis, where the stomach is involved, there is ordinarily a less amount of acid in the stomach. I have not much confidence in the ordinary gastric analysis. I would rather pay more attention to what the patient says about it. I think we should pay attention to the clinical symptoms. I would not pay any attention to the Wassermann test, unless it checks up with the symptoms or the treatment that gives the cure. Observation is worth more than anything else. My opinion in regard to this whole business, is that we do not find nearly as much syphilis as is actually present. In the cases we went over we found four per cent syphilis. In my opinion there were at least five per cent more cases of syphilis in our practice than was actually found. I think that in the private practice of most of us, we will find at least ten per cent of syphilis if the test we use is absolutely accurate and one hundred per cent diagnostic.

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Present Status of Insulin.—The investigators of "Insulin"—the new pancreatic extract proposed for the treatment of diabetes—have applied for a patent on the product in Canada, United States and Great Britain. The patent for Canada and the United States has been tendered, when granted, to the University of Toronto. The university proposes to safeguard the product against commercial exploitation and to insure the marketing of a standardized product. From the present indications it is hoped that the experimental period will be ended during the first half of 1923 so that the product will become available. Dr. McLeod believes that "Insulin" will never entirely replace careful dietary regulations, but that it is of undoubted value in assisting the weakened power to metabolize carbohydrates.—*Jour. A. M. A.*, Jan. 6, 1923.

THE STANDARDIZED WASSERMANN REACTION.*

BY

T. C. TERRELL, M. D.,
FORT WORTH, TEXAS.

A complement fixation test for syphilis must have the following requirements to be universally used:

1. As high a degree of sensitiveness as is compatible with specificity.
2. Practical specificity.
3. Technical accuracy and uniformity in results.
4. Must yield a quantitative reaction.
5. Simplicity in technic.
6. Economy.

These requirements have been met by the technic worked out by Kolmer and his associates.

COMMENTS.

(1) The antigen used must be very low in the hemolytic and anticomplementary power. In 1918, Dr. Stout of San Antonio, gave me the technic for an antigen very similar to the one worked out by Kolmer and associates, and I have found it very satisfactory. However, to work out a uniform routine we are adopting Kolmer's method for, in my opinion, we have more variation in antigens than in any other one point, and the finished extract, as outlined by Kolmer, will permit the use of ten antigenic units as the dose to be employed in the conduct of the test with a standardized technic, this amount being from ten to thirty times less than the anticomplementary and hemolytic units, and rendering the test for syphilis highly sensitive without the danger of nonspecific reactions.

(2) As to quantity, .1 c.c. of inactivated serum and .4 c.c. spinal fluid has been adopted because it is economical, and larger amounts may give false reactions, due to serum constituents other than antibodies. Excessive amounts of serum may result in nonspecific reactions, due to anticomplementary activities of serum and spinal fluid. Also, sensitiveness is reduced by the introduction of natural hemolysins and hemagglutinins.

(3) By heating sera for only 15 minutes, time is saved and the anticomplementary and the native complement, are removed and nonspecific proteotropic reactions are avoided. The spinal fluid is not heated.

(4) By using a mixture of guinea pig serum, a more uniform and more satisfactory complement is obtained, and as it can be kept over a period of several days by adding .3 gm.

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 10, 1923.

sodium chloride to each c.c. of serum, it is more economical.

(5) The antigen and serum should be mixed a few minutes before the addition of the complement. This apparently increases the sensitiveness of the reaction.

(6) By incubating from 15 to 18 hours at a temperature of from 6° to 8° C., we have found that we can give almost as quick reports as by the 4-hour icebox incubation method. We now set up our Wassermanns and have them in the icebox by 5 p. m., giving reports by 10 o'clock the next day. If one will take time to explain that this method gives increased accuracy, the majority of the laboratory users will be willing to wait the additional time.

(7) The amboceptor and complement should both be titrated before the test. It does not make much additional work. There is a little more time, more solutions, and more dishwashing, but that should not be considered as long as increased accuracy results. Two full units of complement and two units of amboceptor, should be used.

(8) We find it a toss-up between the antisheep and antihuman systems. In the antisheep system it is more trouble to get the cells, but frequently a nicer looking test is given than in the antihuman system. If one is careful in getting the human cells and a mixture of different bloods is used, this does not often enter into the reaction. The antisheep amboceptor is easier to make and gives a higher titer than the human, but of late we have not had any considerable difficulty in getting a satisfactory amboceptor.

Reactions may be satisfactorily read in three hours, and only in those that are doubtful is it necessary to wait that long; and if necessary, the reaction can be read by a scale that has been worked out by Kolmer.

For the past fifteen months we have been doing comparative work on the Wassermann reactions and during that time have made a comparative record of more than four thousand tests. It is our conclusion that there is very little advantage in one system over the other. Occasionally, with the human system, a four plus positive Wassermann will be obtained, and that same blood with the sheep system will give an anticomplementary reaction. Other than this, and the location of the laboratory doing Wassermann work, it is immaterial which system is used. Some laboratories can use the human system to better advantage while others can use the sheep system.

We have varied our human system from that which we were using at the time we began our comparative work, and now, instead of using two units of amboceptor we use a one plus unit. Since doing that the two systems have been practically uniform in results.

ABSTRACT OF DISCUSSION.

Dr. H. E. Braun, Fort Worth: The standardization of the Wassermann test is extremely difficult, because so many things are needed before the test can be made. There is the possibility of soiling the glassware, resulting in false reactions. We cannot be certain that the tests are accurate because we have no check on our glassware. I have spent some time investigating this matter. I found in one case that I got a positive reaction from soap that had been put in the tubes. Errors will come in. Sheep cells and rabbit serum all go through several kinds of glassware. Technicians wash the glassware, and put it away. Soiled glassware will give a variety of results. The health of the animals and the glassware are important items.

I am strongly in favor of standardization of the Wassermann test, so that we can at least tell those who do not understand it that we have used a definite standard, and that the test at this time was positive or negative, with the agency used.

Dr. W. M. Bailey, Oklahoma City: I believe in the standardization of the Wassermann test, but I think the general practitioner who sends the blood to the laboratory should also do a little standardizing. For instance, a doctor says the test does not check with the clinical symptoms. He sends it to another laboratory and it checks. We don't hear from him any more for possibly six months. Then he sends a specimen to the other laboratory and it does not check; thus he starts in with us again. This is important. If a report doesn't check with the clinical symptoms, the same laboratory should be requested to repeat the test. This should be done without charge. Results can be checked better from one laboratory than from several laboratories.

SYPHILITIC MENINGITIS.*

BY

JOHN S. TURNER, M. D.,
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Syphilis is a most insidious disease; it has been truly characterized as the "slow poisoner and concealed assassin of many who have long thought themselves cured." It is asserted that 2,700,000 adults have some grade of syphilitic aortitis, many of whom are unaware of the infection. It is also reported that "90 per cent deny infection under routine case taking, and one-half in the face of positive complement-fixation tests."

An extended investigation by the U. S. War Department is said to have shown 16.88 per cent of accepted recruits were Wassermann positive, and upon the basis of results obtained at West Point, it is asserted as probable that 5 per cent of college students are infected. Greene, in his late work on medical diagnosis, says that a history of past syphilis means an increased death rate of 68 per cent in excess of the expected mortality in otherwise normal individuals. The excess

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death loss is most notable in the following diseases:

Malignant tumors, 60 per cent.
Renal disease, 64 per cent.
Gastro-intestinal diseases, 84 per cent.
Cardiovascular diseases, 116 per cent.
Suicide, 122 per cent.
Apoplexy, 128 per cent.
Mental and nervous diseases, 145 per cent.

He also states that from three to six per cent of babies under one year of age are victims of hereditary syphilis.

Syphilis of the brain occurs in about two per cent of all cases of the disease, according to the authorities. The question of determining the selective factor is as yet an open one. Some believe that the location is determined by the activity of the part, thus increasing the blood supply to that locality, and in the same degree the specific infection. The prevalence of brain syphilis in brain workers is cited in support of that theory. Others think that hereditary or acquired weakness of the cerebral centers, is the determining factor in brain syphilis, while there are those who believe that a definite strain of spirochaeta exists which have a special affinity for the brain or central nervous system. The first class of investigators mentioned refer us to the records of the large number of paretics admitted to insane hospitals who were residents of the cities, and who were following occupations requiring much brain work, and little muscular activity, and the comparatively few cases of brain syphilis emanating from among the rural population, who were accustomed to a more limited mental activity but to a considerable degree of physical exercise. The second class call attention to the family history of a large percentage of those suffering from brain syphilis to support their contention that heredity plays an important role in an impaired and weakened condition of the cerebral centers, rendering them more susceptible. In many of these cases a neurotic heredity or a neuropathic history, can be traced in a pretty definite sort of way. The third class assert that there is probably a definite strain of the germ family that has a peculiar affinity for the brain and nervous system without regard to other factors.

There is much work to be done and much to learn about syphilis before we are in position to answer many questions relating to it. For instance, it is difficult to understand why some luetics after much and efficient treatment, have the misfortune to be either childless, or if having children find them defective, suffering from inherited syphilis; or after having an apparently healthy family, the individual himself develops neuro-syphilis; while others who have had but little or no treatment marry and have healthy families and no future trouble from this disease.

Brain syphilis is manifested by many interesting and characteristic symptoms. The following short outline, given by Church and Peterson, describing the meningeal form, aptly states the case:

"The meningeal form is marked by extreme depression and torpor. The patient lies like one narcotized or stupefied with alcohol. At times he can be roused to answer in monosyllables but promptly subsides into the lethargic state and may become unconscious and comatose for a few moments, for an hour, or for several days. When he talks it is in an uncertain and unreliable way. Frequently there is a little delirium. His headache alone seems to cause him trouble. Usually pupillary sluggishness and inequality are present, ptosis and squints are frequent and diplopia sometimes admitted. There may be urinary incontinence or retention. Fever is ordinarily, but not invariably, absent, and the physical functions are well carried on. . . . Cerebral syphilitic arteritis is usually accompanied by basilar specific meningitis and the premonitory headache. Cranial-nerve symptoms are also usually present."

I have recently seen the following described case:

Case 1.—S. W. W.—Admitted to St. Paul Sanitarium October 29, 1922, in a markedly paretic and mentally aberrated condition. Age 41. Farmer, married, and has a wife and several children, all apparently in healthy condition. He has had the ordinary diseases of childhood. Had a severe injury to the right parietal region when four years of age, by being struck on the head with a hatchet, the wound leaving a large scar. He had many bilious attacks, and pneumonia in 1907. A paracentesis was done in 1918 on account of deafness. Had rheumatism for several years prior to this attack, and influenza in 1919. On account of severe headache of several days' duration, he ceased his accustomed work June 20, 1921, becoming progressively worse, his symptoms being more severe at night. He became unconscious and paretic. No specific history was obtainable at that time. The family history was negative.

At the time of examination, the patient was delirious, very weak, paretic in type, and emaciated. Food was administered with difficulty. He was much constipated. There was marked insomnia, necessitating a narcotic to induce sleep. There was every appearance of distress. The blood pressure was 105 over 85, with no rise in temperature. The pupils reacted sharply to light and distance, and there was nystagmus of horizontal type, in both directions. There was some deafness in the right ear. The teeth and gums were in bad condition from pyorrheal infection. The voice was faltering, the pulse slightly accelerated, and the heart, lungs and other viscera were normal. The abdomen was somewhat spastic. There was evidence of sebaceous dermatitis, but no evidence of glandular involvement. The reflexes were exaggerated in the upper and lower extremities, the abdominal region and cremasteric, with disturbed co-ordination and orientation. He was unable to stand, and had to be assisted in changing position in bed. His attention was difficult to obtain, and questions were answered slowly, incoherently and unreliably.

The urine was negative. The blood count showed hemoglobin, 75 per cent; red cells, 4,800,000; leucocytes, 6,820; polys, 64 per cent; lymphocytes, 36

per cent; eosinophiles, 8 per cent. The blood Wassermann was negative. The spinal fluid on October 30 was under much pressure and was mildly positive. October 31 it was under much pressure and 2 plus positive, yet not sufficiently positive to make certain the diagnosis in the absence of clinical history. On November 8, the spinal fluid was still under much pressure, and suspiciously positive. November 16, it was under pressure and still suspicious only. The *x*-ray showed a scar through the outer table of the skull, about three inches long, located in the region of the right parietal bone. There was no evidence of pressure from that source. The sella turcica was somewhat larger than usual, but there was no evidence of erosion.

A diagnosis of cerebral lues was made, although we were unable to get a history of primary or secondary lesions because the patient was unable to converse intelligently.

The treatment consisted of intravenous administration of neosalvarsan, of which 0.45 grms. was given November 3, and a like amount November 8. On November 16 and 24, 0.6 grm. doses were given. Marked reaction followed each administration, consisting of headache, restlessness and some vomiting, necessitating the administration of sedatives following each dose. The hair was clipped, and for some days an ice bag was applied to the head. The secretions were kept active with cascara sagrada.

Within three days after the first administration of salvarsan, the patient began to show evidence of returning consciousness. Soon after the second dose he became entirely rational during the day, being slightly disorientated when awakened at night. Before the third dose was given he had lost his headache, ceased to take sedatives and was sleeping well. The appetite had returned, and he had regained the use of his body and limbs. Soon after the third dose he began to sit up and walk about the room, taking on flesh and gaining in strength. He continued to gain in every respect until he was able to walk quite a distance. The fourth dose was given, and in four days he was permitted to return to his home for Thanksgiving.

He remained at home for about four weeks and returned for the fifth dose of neosalvarsan, at which time 0.6 grms. was administered. The spinal fluid was under less pressure at this time than at any time before, but the reaction from the medication was greater. Late reports from him at his home are encouraging. He seems to be gaining in health and is now able to do some work on the farm.

When sufficiently recovered to talk intelligently, the patient in this case gave a clear history of primary and secondary lesions, which appeared more than twenty years ago. At that time he took some treatment. The lesions disappeared and he thought himself cured. Some years later he married and now has an apparently healthy wife and family of children.

Some interesting features of the case are, the severe character of the initial symptoms, both mentally and physically; the markedly luetic character of the symptoms, with a negative blood Wassermann; pressure of the cerebro-spinal fluid on repeated tests, with the Wassermann only mildly positive; the intense reaction to salvarsan; the rapid and marked improvement following the administration of salvarsan; the early and complete clearing of the mental symptoms, and the great improvement in physical condition in so short a space of time.

ABSTRACT OF DISCUSSION.

Dr. J. A. McIntosh, San Antonio: I understand that the Europeans claim that they did not have this disease to combat with until after Columbus and his crew returned from America. We only know that for many centuries both continents have had in syphilis a very perplexing problem to deal with. As Dr. Turner has said, this is a very insidious disease, and one presenting many baffling problems. It is a great economical problem. It is estimated that from insanity alone, due to syphilis, the cost to the country is something like half a billion dollars annually, and when we include all the diseases of the nervous system resulting from this disease, it reaches into the billions.

Many questions concerning this disease have been worked out, and much has been accomplished in the way of treatment, but there are still many problems to be solved. Among these is the question that the essayist referred to, regarding the involvement of the nervous system. Why some patients infected with syphilis will develop nervous diseases, when others with infections of the same length of time do not, is hard to understand.

Dr. Hazen, of Washington, has presented three theories in an attempt to explain this. One is that there is a special strain of the infecting organism. Dr. White, of Washington, in support of this theory refers to the fact that in diseases of the nervous system, or in infections where the nervous system is involved, there is practically no skin involvement, *i. e.*, no eruption and no falling out of the hair. That is to be taken for what it is worth. Also, the fact that the infections from a common source will show diseases of the nervous system, when other symptoms are not so prevalent, is strongly suggestive of a special strain of the organism. The second theory is that there has been too little treatment, and the third is that the early treatment has been too intensive. His idea is that the excessive treatment almost but not completely sterilizes the system, and there is left a few organisms, probably in the nervous system, which later develop and attack that system. The rest of the body has been sterilized, so that the natural defensive reactions of the host are not called into play, and disease of the nervous system results.

The question of diagnosis is important, and is still very puzzling at times. We have to consider first the history, and then the symptoms, so well described by Dr. Turner, the physical signs and then the laboratory tests. In the latter the finer points of diagnosis come in. We often do not get a Wassermann positive in the spinal fluid and blood, but I think we often get an increased cell count. In fact, the series of cases reported from the Mayo Clinic and from Dr. Fordyce of New York, show that while the Wassermann is negative in from 20 to 40 per cent of cases, in practically 100 per cent there was an increase of cell count in the spinal fluid. I think this point should be taken into consideration in making a diagnosis.

I have recently had a case with symptoms similar to those in Dr. Turner's case. The Wassermann was not even mildly positive, in either spinal fluid or blood, but we got a cell count of 56, and in the absence of any other cause for the symptoms of meningitis, and because of the fact that the symptoms cleared up very promptly under antisyphilitic treatment, we are satisfied with the diagnosis of syphilitic meningitis.

Dr. Penn Riddle, Dallas: A vital factor in the pathology of syphilitic meningitis, the acute form,

is the rapid increase of spinal fluid, the consequent increased pressure, and the pressure symptoms. In the case recited, it is interesting to note that with a marked increase of spinal fluid, the blood pressure was not necessarily increased. However, sometimes the spinal fluid pressure does rise to 300 millimeters. In this case the systolic pressure was 105 m.m. of mercury. In most cases of increased intracranial pressure, we get a rise in blood pressure. Spinal puncture usually clears up the acute symptoms of acute luetic meningitis, irrespective of antiluetic treatment, which latter will in time clear up the case, remove the cause and prevent recurrence. But spinal puncture is the thing that turns the trick, in clearing up the pressure syndrome.

Before the test of spinal puncture and treatment of *lues* by *salvarsan*, Dr. Richard C. Cabot states that physicians called such cases as this cerebro-spinal lues, and that autopsy usually showed them to be syphilitic meningitis. A great many of the cases cleared up following the administration of large quantities of potassium iodide per rectum.

We always get an increased cell count in acute cerebrospinal meningitis, whether luetic, tuberculous, or due to some other infective organism.

A point in differential diagnosis between lethargic encephalitis and cerebro-spinal syphilis, is in the analysis of the spinal fluid. Within recent years it has been demonstrated that in lethargic encephalitis we get a definite increase in the glucose in the spinal fluid. This we don't get in luetic meningitis. Where spinal puncture cannot be made, as in the case of obese individuals, the use of saline solution intravenously has been suggested, with the idea that the spinal fluid may be decreased by osmosis, and the blood volume increased, thereby clearing up the clinical symptoms.

Dr. J. J. Terrill, Dallas: We so frequently find the personal history negative, that I have quit asking my patients if they have ever had syphilis. I do ask questions which would give me some information in that particular, but when a patient says, "No, I have not had any venereal disease," subconsciously that has an effect upon my reasoning. I don't know why it should, because I have been fooled so often, but it does; so I do not give them a chance to tell me they have not been infected.

I feel that a complete laboratory examination of the spinal fluid should comprise not less than four things: First, cell count, which is almost as important, if correctly done, as the Wassermann; second. the globulin or protein estimation; third, the colloidal gold test, which is particularly helpful in determining whether we have a purely superficial or meningeal involvement, or an involvement of the cellular structure of the brain itself, and fourth, the Wassermann, and I believe I place that properly at the last. We ought not to let the laboratory make the diagnosis. I have always held that view, even when I used to do laboratory work. We should not be fooled if the laboratory gives us a negative picture.

The more the treatment is simplified the greater will be the advantage to the patient, because he will come that much nearer getting the treatment he ought to have. If all practicing physicians were administering neosalvarsan in proper doses, and as often as it should be administered, our syphilitic patients would not be so badly neglected. For something like four years I have given neosalvarsan intravenously, in doses varying from 0.3 gram to 0.75 gram, and in that period of time I have never used more than 2 c.c. of distilled water in mixing my dose, the water being placed within the ampule in which the drug came, and put in solution there by stirring with a little applicator stick that has been boiled and sterilized. I then draw the solution in to the syringe and administer it. This procedure is advantageous because it does not require the use of a large amount of apparatus; it does not require the use of a large syringe of from 10 to 20 c.c. capacity, with corresponding mental effect upon the patient. But it has one very great disadvantage (?), and that is that we do not make enough of a show to charge a big price for our work.

Dr. E. D. Crutchfield, Galveston: This paper causes us to take stock and count syphilitic noses, as it were, which is, perhaps, not a bad idea.

The practitioner of medicine who is not in a city where venereal disease is most prevalent, does not think so much in terms of syphilis. In our clinic we have been making routine examinations of all early cases of syphilis, and we have found from five to six per cent have nerve involvement.

The importance of the routine spinal fluid examination was brought out some years ago by Fordyce's clinic, where they have been doing routine spinal puncture and spinal fluid examinations for cells, globulin, Fehling's reductions, the Wassermann and colloidal gold tests. It has been shown that upwards, perhaps of ten per cent of all these cases will show spinal manifestations in the secondary stages of the disease. It may be simply an increase in the cells, a weakly positive Wassermann or a positive gold curve. It seems to me that if in all cases of syphilis a spinal fluid examination were made before discharge, we would see fewer of these surprising late cases of acute involvement. The time of involvement is when the general dissemination of the disease occurs, and I dare say, that if Dr. Turner had seen this case twenty years ago there would have been present evidence of a luetic involvement of the spinal system. Dr. Terrill's suggestion about giving neosalvarsan in concentrated solution, is a good one. It has been a very satisfactory method in my hands, and for the past few years I have used only one or two c.c. of water.

Dr. F. S. White, Wichita Falls. I have for a number of years believed there were different strains of spirochetes to account for the different manifestations of the disease. This has not been demonstrated. It is said that at one time several men were infected by the same woman. They all developed paresis. That was one point leading to the idea that there are different strains of spirochetes to produce the different types of lesions in the nervous system. I don't believe there is scarcely any other way that we can account for the different manifestations.

Paresis develops in men of higher order of intelligence, men who are doing things. We used to find, when men drank liquor in this country, that it was almost the rule that those who developed paresis were the "high livers;" they ate enormously, drank considerably and dissipated in other ways with equal vigor. They were men of active minds; men who did things, who were very often in big business. I don't recall ever seeing a case of paresis in a negro. I know it occurs, but I have never seen it. The intelligence or the mental activity may have something to do with it. Possibly there is a racial immunity. All syphilitics who come to the insane institutions do not have paresis. I have quite frequently found the Wassermann positive where there were no distinct symptoms of syphilis.

Dr. Turner got remarkable results from the treatment in his case, but I venture the opinion that he does not look with much favor on the prognosis. The chances are that his patient will yet die as the result of his syphilis. We thought a few years ago that we had developed a specific for syphilis. I questioned that very seriously then, as I do now.

It will take from twenty-five to thirty years to determine that point.

If the results should show that there are fewer cases that develop paresis, then we have today a better treatment than the old mercury and iodide, and it will be strong evidence that we are really getting somewhere. I don't depend entirely, and I don't suppose anybody else does, on salvarsan and neosalvarsan in the treatment of syphilis.

Dr. R. B. Giles, Dallas: Every chancre or every initial lesion becomes a systemic infection. Not only the blood vessels, heart and brain, are infected, but every organ in the body becomes diseased. Hence, cases of initial infection improperly treated or insufficiently treated, will result, in a great majority of cases, in nerve syphilis. The prophylactic treatment of nerve syphilis is to treat the initial infection, not locally with drugs, cautery, etc., but the systemic infection, for several months. The individual with an initial lesion should be treated vigorously and then not discharged as cured until sufficient time has transpired to assure the physician that he is well. If this is done we will rarely see these advanced cerebro-spinal and cardiovascular luetics.

Dr. W. F. Dawes, Gonzales: One thing, I think, has not been brought out in this discussion. Severe nervous symptoms may appear early in syphilis. I saw a case in which there were violent nervous symptoms within six months after the primary lesion. The symptoms yielded within a few days to inunctions of mercury.

It is difficult to understand the manner of syphilis. Some patients have the primary and secondary lesions, and no treatment, or very indifferent treatment, and have but little further trouble, while others show severe symptoms from the first, and even with the best of treatment are difficult to keep under control.

Neurosyphilis seems to be more common than it was before we began to use salvarsan. It is held by some that salvarsan may be a causative factor. Mercury still has a place in the treatment of syphilis, and iodide of potash is useful in some cases.

Regarding the administration of neosalvarsan in concentrated solution, as suggested by Dr. Terrill, I doubt the advisability of using such a small amount of water. The average dose of neosalvarsan dissolved in but two c.c. of water, I think would be sufficiently irritating to produce considerable local reaction if some of the fluid should escape into the tissues, and this is occasionally unavoidable.

Dr. Turner (closing): I have just had an opportunity of seeing a case of encephalitis lethargica where sugar in the spinal fluid was one of the characteristics. The amount of sugar in that particular case, as compared with the normal amount, was quite large. This is not a constant symptom, however, in this disease. No sugar was found in the spinal fluid in the case of syphilitic meningitis I reported here. I think that is an important diagnostic point to work out.

The question of different strains of spirochetes is under discussion at this time by some of our best clinicians. Just what is going to come of it cannot be foreseen. I hope something will be found that will give us a better idea about the determining factor of this disease. I have told the family in the case I have reported, that in all probability the condition will return later; that while the patient had made a good recovery, apparently, the prognosis should be guarded; that in all probability he would have evidence of this trouble later on in life as the degeneration of age came on.

I have recently seen a case in which convulsions came on within three months of the initial lesion, the seizures being of the epileptic type.

SYPHILIS AND TUBERCULOSIS IN THE NEGRO RACE.*

BY

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One of the greatest health problems of the South, and one that is receiving very little organized and systematic attention, is the care of the syphilitic and tuberculous negro. The negro race constitutes 29.8 per cent of our population and over 5 per cent of these are syphilitic and tuberculous. Among the earlier references to syphilis in the colored race may be mentioned Taylor's article on "The Peculiarity of the Papular Syphilide in the Negro[1]," published in 1873; Kinson's paper on "Early Syphilis in the Negro," published in 1877; Barthelemy's article on "Syphilis in Negroes[2]," published in 1881.

According to Sydenham, Haller, and later Sprengel, in 1796, Africa was the primary center of syphilis, and the disease spread from there to Europe. In my opinion this hypothesis is incomplete for I am ready to accept it in part only. It is generally admitted that Asia was the cradle of this affection, and that it existed in the East Indies from a very early date. In Europe the history of pox dates chiefly from 1493, the year Christopher Columbus returned from his first voyage to America. In South America syphilitic lesions have been observed in the skeletons of Indians who inhabited the country before the Spanish conquest. Mohry (1865) thinks that syphilis was imported from tropical Africa to Portugal in the fourteenth century, during the reign of King Henry the Navigator. According to Dr. J. W. Roy, syphilis was imported from Asia to North Africa, and the Arabs and Verbers infected the Moors of Mauretania, who in their turn have transmitted the disease to the negroes. The question is, did the American negro contract the disease before or after being imported into slavery to this country. Barthelemy[3] quotes Albert as saying that the negroes from Africa spread this plague in the New World. Inasmuch as the first slaves were landed in America in 1619, it would seem that some of the syphilis in the negro was contracted before he was transported.

SUSCEPTIBILITY AND PREVALENCE.

The susceptibility of the negro to syphilis and tuberculosis is generally well known. He represents virgin soil to an organism that

*Read before the Section on State Medicine and Public Hygiene, State Medical Association of Texas, Fort Worth, May 8, 1923. From the Samuell Clinic.

1. Taylor, R. W.: Am. Jour. Syph. and Dermat., 1873, Vol. iv, p. 107.
2. Barthelemy; An. dermat. et syph., 1881, 2s, Vol. ii, p. 320.
3. Barthelemy: An. dermat et syph., 1881, 2s, Vol. ii, p. 320.

has become virile by transmission through generations of people of varying degree of resistance. Adding to his inherited susceptibility an unusual fondness for alcoholics, and retarded mental development, the host is prepared for the energetic spirochete and tubercle bacillus. Up to the present time the negro seems to have developed only that degree of resistance to the spirochete and tubercle bacillus that makes him an excellent carrier.

There has been done comparatively little work of a scientific character to determine the exact incidence of syphilis in the negro; however, it is generally believed that the disease is far more common in the colored than in the white race. It will be surprising to know the exact number of positive Wassermann reactions recorded in the laboratory of our clinic during the year 1922. Out of 4,650 tests made during this time, 1,125 were positive, and of these 700 were in negroes. In this series there were more women with positive Wassermanns than men.

Loyd Thompson quotes Jones[4] who, after an experience of more than six years in a large clinic composed almost entirely of negroes, believes that he is justified in making the statement that 75 per cent of that class who came as patients were syphilitic. He also quotes Quillian[5], who states that he believes from 60 to 70 per cent are syphilitic. Murrell[6] believes that another fifty years will find an unsyphilitic negro a freak, unless some such procedure as vaccination comes to the relief of the race, and that in the hands of a compelling law. Fox[7] collected statistics of 2,200 skin diseases among negroes, and found that 27 per cent were syphilitic, while of 32,000 cases of general diseases among negroes, 5.82 per cent were syphilitic. Hazen[8] in a similar study of 2,000 cases of skin diseases found 32 per cent syphilitic and of 9,172 cases of general diseases 5.37 per cent were syphilitic. Lynch[9] and his co-workers concluded that from 50 to 60 per cent of the major class of negroes are infected. Hindman[10], in a study of syphilis among insane negroes, found that 16 per cent were syphilitic; while Wender[11] found in 106 insane negroes, that 53 per cent were syphilitic. Out of 1,800 negroes admitted to our clinic in 1922, to be examined for general diseases, 45 per cent were syphilitic.

In my effort to determine the number of positive Wassermanns in the negro, I sent questionnaires to the public health offices of various southern states. I will quote from a few of these.

The North Carolina State Board of Health sent public health workers to several counties in that state, asking the people to come for blood examinations. Each county was visited for two or three days each week for a period of over six weeks. Over 5,000 were examined, of which number 3,000 were negroes, and of these 20 per cent showed positive Wassermann reactions.

The Alabama State Board of Health in January, 1921, reported seven times as many male negroes infected as white males, and nine times as many negro females infected as white females. The total number of cases treated during that month was 171 white males, 510 colored males, 59 white females and 372 colored females. A report from a free clinic in Alabama, operating from April, 1919, through September, 1922, showed a total of 22,523 cases of syphilis treated during this period. The ratio was about five negroes to one white. During this period, 9,773 doses of arsphenamine were administered.

The health officer of Alabama stated that, as a result of the work of this clinic, the number of new cases admitted to the clinic each month now is 25 per cent fewer than for the corresponding months of one and two years ago.

Out of series of 15,566 people examined for food handlers' certificates in Dallas, Texas, 12,545 were whites and 3,000 were negroes. Of the whites, 5.7 were infected, as against 17.7 per cent of the negroes.

The negro's mode of living makes him prone to the disease. By this I mean the sexual differences, the looseness of morals. Quillian[12] states that he has never examined a virgin negress over fourteen years of age. This implies that the women of the colored race indulge in sexual intercourse as promiscuously as the men, and they contract syphilis as frequently. I find, on gathering statistics on Wassermann reports, that there are more women infected among the negro race than men. The Federal census of 1910, showed that there were 9,827,763 negroes in the United States, of which 8,746,709, or 89 per cent, were in the Southern States. It is further shown that 2,857,732 of these people are engaged in agricultural pursuits, such as trucking, poultry raising, dairying, producing

4. Jones, Frank: Jour. Am. Med. Assn., 1904, Vol. xlii, p. 32.
5. Quillian, D. D.: Am. Jour. Dermat. and Genito-Urin. Dis., 1906, Vol. x, p. 277.
6. Murrell, Thomas W.: Jour. Am. Med. Assn., 1910, Vol. liv, p. 847.
7. Fox, Howard: Jour. Cutan. Dis., 1908, Vol. xxvi, No. 67, p. 109.
8. Hazel, H. H.: Jour. Cutan. Dis., Oct., 1914.
9. Lynch, K. M., McInnes, K. and McInnes, G. F.: South Med. Jour., 1915, Vol. viii, p. 450.
10. Hindman, S. S.: Am. Jour. Pub. Health, 1915, Vol. v, p. 218.
11. Wender, L.: New York Med. Jour. 1916, Vol. cix, p. 1286.
12. Quillian, D. D.: Am. Jour. Dermat. and Genito-Urin. Dis., 1906, Vol. x, p. 277.

small fruits, and other occupations in which they handle directly the provisions of millions of consumers. The figures show that the negroes come in closer contact with white people than this, for 368,124 are laundresses and laundrymen; 22,534 barbers and hairdressers; 8,233 doorboys and bellboys; 3,820 bootblacks; 8,428 butlers; 14,082 chambermaids; 92,301 charwomen and cleaners; 2,333,912 cooks; 11,119 nursemaids; 30,190 porters, and 6,369 restaurant and lunchroom keepers. We of the South have always been in more or less intimate contact with the negroes. We have been nursed, fed, cleansed and clothed by them since our infancy.

CLINICAL MANIFESTATIONS.

It seems a noteworthy fact that colored luetics present a peculiarity of type, or a greater frequency of a certain type, than is usually found in whites. Not only is attention directed to the racial peculiarity of lesional types, but also to the virulence of the infection itself.

Primary Syphilis.—Extra genital infection is relatively infrequent in negroes. Among colored males and females the age of infection is one and two years earlier than in white males and females.

Secondary Syphilis.—This in the negro is characterized by marked polyadenitis, frequent and severe osteo-arthritic symptoms, frequency of iritis, and high incidence of follicular and pustular syphilides. A striking racial peculiarity is the frequent occurrence of the annular papular syphilides.

Tertiary Syphilis.—Bone syphilis is the most frequent lesion of tertiary syphilis in the negro exceeding neuro-syphilides, which, in white patients, comprises almost one-half of late manifestations. Cardio-vascular involvement is more frequent in negroes, with a ratio of two to one.

Stricture of the rectum and elephantiasis vulvae, are extremely common in the colored female.

Leukoplakia is rare in negroes. Tertiary adenitis is common. The negro is less liable to develop tabes or paresis. In negroes, the disease is especially likely to manifest itself in the form of cerebral endarteritis. The negro is ignorant of the dangers of syphilis and consequently is more apt to neglect treatment until the appearance of painful or destructive lesions.

MORTALITY.

The mortality statistics of the Government census for 1914, show 7,792 deaths from tuberculosis among the negroes of the states of Kentucky, Maryland, North Carolina and Virginia. This number probably does not represent more than one-third of the real number. From January to September, 1915, 196,399 negroes died of pulmonary tuberculosis in their homes, scattering the germs to their associates who, as laundresses, maids, nurses, barbers, etc., carried them to the four corners of the states. The diseased themselves in order to exist were compelled to work until exhausted.

Sir Robert Phillip of Edinburg, after twenty-five years of experience in the dispensaries and hospitals of that city, says that "each death from tuberculosis represents ten infected people." Statistics of the state of North Carolina for 1921, showed a total number of deaths from tuberculosis in the whites 1,208 per 100,000 population, or 65.4 per cent. The total number of deaths from tuberculosis in the colored race was 1,433 per 50,000 population. Statistics of the state of Louisiana during the year 1917, showed 889 whites died of tuberculosis of the lungs and 80 of tuberculosis in other parts of the body; while 1,690 negroes died of tuberculosis of the lungs and 133 of tuberculosis of other parts of the body. In the year 1919, 781 whites died of tuberculosis of the lungs, and 71 of tuberculosis of other parts of the body; while 1,545 negroes died of tuberculosis of the lungs, and 121 of tuberculosis of other parts of the body. In the year 1920, 797 whites died of tuberculosis of other parts of the body, while 118 negroes died of tuberculosis other than pulmonary. During the year 1921, 681 whites died of tuberculosis of the lungs, and 1,381 negroes died of tuberculosis of the lungs, while 86 whites died of tuberculosis of other parts of the body, and 78 negroes died of tuberculosis of other parts of the body.

PROPHYLAXIS.

In regard to the prevention of these two diseases in the negro race, too much cannot be said. There is a great divergence of opinion as to what measures should be taken. I think the matter is entirely in the hands of the practicing physician and the public health worker. We are to congratulate our public health officers on the splendid work that they are doing to avoid these diseases. They have made very rapid strides during the past six years, but we doctors could bring about a more complete success by co-operating with them more fully. Syphilis should be made reportable in all places, as it is now in many places. Not only should it be reportable, but a severe penalty should be imposed on physicians for failure to report their cases. For the past few years we have established free clinics in some of our cities, where all cases of syphilis could receive modern treatment. To a certain extent it has been quite

beneficial, but I do not think this entirely a good plan, not only on account of the expense, but because the negroes do not take advantage of it. As a rule, when a negro has taken two or three "shots" he feels much better and thinks he is cured. Consequently, he fails to report for further treatment. It may be that the private practitioner could do more to control these cases than the free clinic. The physician should be furnished the medicine and allowed to charge a reasonable fee to cover the cost of administration in cases entitled to free treatment.

I would like to see a law passed that would require an examination for syphilis and tuberculosis in the negroes at least once a year. If this idea is too radical, we could at least require an examination of this kind for every negro who seeks work in the homes of our country. I think we should require Wassermann tests and a physical examination of colored servants before employing them. They are not only spreading the diseases among themselves but are carrying it into our white homes. Before the Civil War there was comparatively little syphilis among the negroes, because it was only natural for the slave owners to take the very best care of their property. When the protecting hand of the master was withdrawn, and the negro was thrown upon his own resources, his condition in many instances became deplorable.

CONCLUSION.

I have shown statistics tending to prove that there are more negroes dying each year of tuberculosis and syphilis than white people, and that for the past few years, in some cities, there have been more deaths than births among the negroes. I merely want to arouse enough interest among our doctors that we may awaken to the fact that not enough effort is being made to still the ravages, arrest the spread or abort the course of these two fatal diseases.

Dr. A. S. Garrett, Weatherford: It occurs to me that we need well informed lecturers, paid by the State, to go before the negroes in their churches and in their schools, and explain to them the seriousness of syphilis, gonorrhea and tuberculosis. The negroes were formerly our slaves and we have inherited the responsibility for their care and education. I am a southern man, born and reared in the South. My grandparents were slave owners. If slavery was a curse—and it might have been, we are now reaping the results of the curse. It is important that we as physicians, as much as we have opportunity, teach and impress upon the young men and boys of our own race, when they are growing into manhood and when temptations are strong in them, the dangers and awful results that may accrue if they have carnal relations with negro girls and women. They must not only be taught to hold themselves aloof from anything of a social or carnal nature with the colored race, but the principles of purity in its highest conception must be impressed upon them.

Dr. W. W. Waite, El Paso: What the essayist says about the negro will apply as well to the Mexican. In our section of the country, West Texas, we have more Mexicans than negroes, and while the statistics that have been gathered are not yet available, I think they will show just as high among the Mexicans as the negroes. The problem is just as serious and just as important to deal with. We have those people working in our homes and mixing with our white people. We cannot have one part of our population well and healthy and the other part sick; if we are going to have one part well we must have them all well.

Dr. Keller, (closing): This question is one of vast importance to the Southern people, particularly. We must tell the boys and young girls over the ages of 16 and 17, the dangers and seriousness of this particular condition. I wish that we might stage a campaign and have physicians in each town go into the public schools and lecture to the boys and girls, showing lantern slide illustrations of the various first and secondary lesions of syphilis, and explain to them why so many of our white people above the ages of 40 and 50 are being cared for in the insane asylums.

SYPHILIS IN PREGNANCY.*

BY

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Syphilis in pregnancy covers such a wide field that it would be futile to attempt a detailed discussion. The combined efforts of syphilographers and obstetricians have clarified many of the problems, yet our knowledge is so meager that it might be considered only a starting point for what will be disclosed in the future. The outbreak of syphilis in the army of Charles VIII, following the return of Spanish sailors from the new world; the famous poem of Fracastorius giving to the disease its name; the discovery of the treponema pallidum by Schaudinn, and the contributions of Ehrlich and Wassermann, are common knowledge to all. The question arises, are we utilizing this knowledge in diagnosing and combatting the disease?

It is not my hope to present any new phase of this subject, but simply to rehash the literature and correlate some of the important facts, by which one may profit in the routine care of an obstetrical patient. I will discuss the following topics: (1) Incidence of syphilis; (2) clinical manifestations in the pregnant and in the non-pregnant state; (3) value of the Wassermann reaction; (4) lues as a cause of foetal death; (5) value of early treatment, and (6) post-partum diagnosis.

(1) *Incidence of Syphilis.*—It is with difficulty that we arrive at a correct estimate of the prevalence of syphilis in the United States, because of the many factors which have to be considered. First, the statistics are, for the most part, based on the results

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of the Wassermann complement fixation test, and this cannot be considered as reliable; second, the majority of the patients examined are visitors of free dispensaries and are not representative of the public at large, and thirdly, the prevalence of lues must vary in different localities, depending upon the ratio of the colored population.

Craig estimates that 15 per cent of the male population between 20 and 30 years of age are syphilitic, but he found only 8.64 per cent positive Wassermann reactions in the examination of several thousand army recruits. Levin found 10.5 per cent positive Wassermann reactions in over 8,000 white drafted soldiers, and 18.3 per cent positive tests in approximately 3,500 colored drafted soldiers. Peterson found a positive Wassermann reaction in 5.8 per cent of 477 obstetrical patients, while Whitridge Williams reported a positive reaction in 2.48 per cent white patients and 16.29 per cent colored patients, in over 4,000 consecutive cases. Hinton, in a study of the Wassermann reaction in 10,422 pregnant women, found 4.18 per cent positive and 3.85 per cent doubtful, making a total of 8.03 per cent. It is interesting to note that the same author found in his series that, as a race, the Greeks had less than 1 per cent positive Wassermann reactions, while the negroes were infected in 33 per cent of the cases. Moore found that 7.6 per cent of the white public ward patients and 5 per cent of the private ward cases at Johns Hopkins Hospital, showed positive reactions. Colored patients at this same institution showed evidence of lues in 22.9 per cent of the cases. At West Point, Vedder found positive Wassermann reactions in approximately 5 per cent of the 621 cadets. Greer, at Houston, in over 1,000 consecutive cases among his private patients, found approximately 4 per cent with positive Wassermann reactions. From these statistics it seems permissible to assume that syphilis is present in from 3 per cent to 15 per cent of the white population, depending largely on the social status of those examined.

(2) *Clinical Manifestations in the Pregnant and Non-Pregnant State.*—For a long time it has been generally understood that syphilitic manifestations are rarely found during the pregnant state. It has been my experience that a history of a primary or secondary lesion is very hard to elicit, even when there remains no doubt of the existence of lues. It may be suggested that insufficient inquiry on the part of the physician is the explanation, but I do not believe such is the case. Moore has recently pointed out that pregnancy exerts a modifying influence on the course of syphilitic infection. According to this author, there is a complete suppression of the usual early lesions of the disease, provided impregnation and infection coincide, and no doubt this condition occurs quite frequently, as the disease is usually transmitted by direct contact.

There are many explanations offered for the suppression of the early lesions of lues during pregnancy. It is generally accepted as a fact that during gestation women are in general more resistant to chronic infections, and Routh has suggested that chorionic ferments are thrown out into the maternal circulation, which tend to suppress lesions of syphilis. Some authorities point to the change in the endocrine glands during pregnancy and the increase in cholesterol content of the blood as plausible explanations of this suppression of the initial lesions. The most convincing proof that pregnancy exercises a modifying and, to a certain degree, curative influence upon syphilis, is offered in the experimental work of Wade Brown and Pearce, who showed that pregnant rabbits when innoculated with spirochetes exhibited very mild manifestations in comparison with the non-pregnant controls. From the observations of Moore and the experiments of Brown and Pearce, it seems conservative to conclude that the anamnesis and physical findings offer very little aid to the obstetrician in diagnosing lues because of the modifying influence of pregnancy upon the course of syphilitic infection. However, this does not mean that one should disregard the history and physical examination.

(3) *Value of the Wassermann Reaction.*—Craig considers that the Wassermann reaction will be positive in 86 per cent of the infections with syphilis, and these results are in practical agreement with those of most recent observers. Any test which will give a correct diagnosis in 90 per cent of the cases is a "diagnostic weapon of astonishing precision." In pregnancy it is of double value because, as previously stated, the anamnesis and physical findings are usually negative.

(4) *Lues as a Cause of Foetal Deaths.*—During the first two trimesters of pregnancy, syphilis plays an insignificant role. After the sixth month it is one of the most common causes of premature labor and stillborn children. Whitridge Williams found, in his clinic, that the number of stillbirths and deaths during the first two weeks of life attributable to syphilis, was as great as the total number of deaths due to any other three causes—that is to say that syphilis was responsible for as many deaths as toxemia, dystocia and prematurity. Ballantyne states

that 20 per cent of the antenatal, intranatal and neonatal deaths in England and Wales are due to syphilis. If it is the object of the obstetrician to deliver a live, healthy child, with the least danger to the mother, it becomes evident that every effort should be made to combat lues.

(5) *Value of Early Treatment.*—In order to institute early treatment it is necessary to make an early diagnosis. The question naturally arises, are we justified in making routine Wassermann tests? Can such a procedure be adopted in private practice without offending the patient? Welz and Van Nest, in a series of 147 syphilitic mothers, made the observation that in 46 which had adequate treatment, there resulted 45 living, healthy children, and only one stillbirth, while in the 101 remaining cases, with insufficient or no treatment, 26 had stillbirths. It is universally accepted that if syphilis is treated energetically and during early pregnancy, one is almost assured of a live, healthy child. No matter during what trimester of pregnancy syphilis is diagnosed, treatment should be started at once, if for no other reason than that congenital syphilis is more serious than acquired, and is more difficult to eradicate.

(6) *Post Partum Diagnosis of Syphilis.*—By this I mean that one is able to make a diagnosis of lues after delivery of the child. Such would seem to be a matter of "Locking the barn after the horse is gone." In every case of prematurity and stillbirth, an attempt should be made to obtain a foetal and maternal Wassermann, although the value of the cord Wassermann is questioned by some authorities. In all stillborn children, or in those suspected of lues, a Roentgenogram of the entire body, especially of the long bones, should be obtained, so a diagnosis of syphilis if it exists can be made. Examples of normal stillborn foetus and macerated syphilitic foetus, can be seen in these plates. Note the moth-eaten, ragged appearance of the long bones, and also Wegner's line. According to Whitridge Williams, the microscopical examination of sections of the placenta offers the best method of diagnosing syphilis. Plass, in the macroscopical description of a syphilitic placenta, calls attention to its excessive size. It weighs from one-fourth to one-half as much as the foetus. It is paler in appearance and often presents a dull, greasy appearance. If one takes the time, a diagnosis of lues can be made in the majority of cases by teasing out the chorionic villi. In syphilis the chorionic villi have lost their arborescent appearance and have become thicker and more club-shaped.

In conclusion, the following facts are the most outstanding, and should be constantly borne in mind by the obstetrician:

(1) The prevalence of syphilis is not to be denied.

(2) Pregnancy exerts a modifying and to a certain degree curative effect on syphilitic infection.

(3) The Wassermann reaction is the best method of diagnosing the existence of lues and should be employed as a routine, if possible.

(4) Syphilis if not treated is a prominent factor in the causation of foetal death, but if energetically treated during pregnancy excellent results are obtained.

(5) In case of stillbirths, prematurity or suspected lues, the foetal and maternal Wassermann, macroscopical and microscopical examination of the placenta, as well as a Roentgenogram of the child, should be obtained in making a diagnosis, so that treatment may be instituted immediately.

THE DIAGNOSIS AND TREATMENT OF ACUTE GONORRHOEA IN THE MALE*.

BY

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Since the institution of educational campaigns and various other agencies for the eradication of venereal diseases by the United States Public Health Service, it appears that the public is becoming pretty well acquainted with the importance of the early recognition and prompt treatment of these conditions. However, those of us who are in a position to treat large numbers of these cases are frequently impressed with the fact that the disagreeable by and after effects of venereal disease are all too frequently caused not by the patient's failure to seek treatment soon enough, but rather because effective treatment is not administered when the patient does come under the physician's care. This state of affairs, of course, does not hold true so much in the cities where, between the clinics and specialists, most patients will get into experienced hands, but is more especially true in the smaller communities, where the treatment of these cases seldom is conducted by the specialist. It is hoped that some points will be found in the few remarks to follow which will lead to a better understanding of a method of treatment which lends itself to easy application and has yielded both in clinic

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and private practice, uniformly favorable results.

DIAGNOSIS.

For practical purposes, acute gonorrhoeal urethritis may be regarded as being either of the anterior or the antero-posterior variety. This classification is purely arbitrary, it being pretty generally conceded that anterior urethritis includes those cases where the infection is limited to the urethra distal to the cut-off muscle, while in antero-posterior urethritis, the anterior and posterior urethrae as well as the prostate gland, and usually the seminal vesicles, are infected. In acute cases, the differentiation of these two types does not usually present any difficulty, the only essential diagnostic procedures being a microscopical examination of the urethral discharge and a proper interpretation of the "two-glass" test.

Accordingly, at the patient's first visit, it is essential to examine the urethral discharge microscopically, to determine the presence of gonococci and pus cells. Where possible, of course, the Gram stain should be used, but considerable reliance may be placed on the findings in specimens stained with a 1 per cent aqueous methylene blue solution. These latter preparations disclose the pus cells and bacteria very plainly, and in the ordinary case, where intra or extra-cellular diplococci of the characteristic size, shape and grouping are found, it is safe to assume that they are gonococci.

For the proper performance and interpretation of the "two-glass" test, one or two points may be emphasized to advantage. The patient shall have retained his urine for sufficient time to have at least eight ounces in his bladder. He is instructed to void about five ounces in the first glass and the remainder in the second glass. This division of the urine is essential because sufficient urine must be passed into the first glass to thoroughly cleanse the anterior urethra, so that the contents of the second glass will be known to contain the washings from the posterior urethra. If the first glass is diffusely turbid and the second glass is entirely clear it is safe to assume that the infection is still limited to the anterior urethra. If, however, the urine in both glasses is diffusely turbid, it is more than likely that the posterior urethra and its adjacent structures are involved. It must be remembered that phosphates in urine yield a turbidity which, macroscopically, might be mistaken for pus, but the addition of a few cubic centimeters of U. S. P. acetic acid (38 per cent) will dissolve the phosphates, but the turbidity due to pus will remain unchanged.

To summarize at this point: Given a patient with a history of recent exposure, presenting a yellow purulent discharge in which pus cells and gonococci are demonstrated, and a two-glass urine test showing the first glass containing pus (turbid) and the second glass clear, the diagnosis of acute anterior urethritis may be made. If, in addition to these findings, the second glass also shows a turbidity (pus) the infection has already invaded the posterior structures.

TREATMENT.

General Considerations.—The fact that innumerable drugs and methods of their administration have been advocated by almost as many observers, leads us to two inferences: First, that no single method will prove entirely satisfactory in every case, and second, that, no doubt, all the methods that have been and are still in vogue, have a definite field of usefulness. However, it would not seem essential for the physician who is called upon to treat the occasional case of gonorrhoea, to familiarize himself with all the standard methods of treatment, when his purpose would be much better served by thoroughly acquainting himself with one method, upon which he could rely. Therefore, this paper will not enter into a discussion of the merits of the different procedures for the treatment of gonorrhoea, but will be confined to a detailed description of a method of treatment which has been applied extensively, and with a great measure of success, under the varied conditions that would arise in the management of gonorrhoea in army, civil, and clinic practice.

The drug which is here recommended is that combination of silver and protein which appears on the market under the various names of Silver Proteinate, Protargol, Protargentum and the like. The one-half per cent solution has been found effective and adapted to the treatment of gonorrhoea at any stage of the disease. Its sedative action on the inflamed urethra permits its prompt employment even in cases where the acute symptoms are pronounced. A 10 per cent solution remains stable almost indefinitely, and the ½ per cent solution, which is not quite so stable, may be prepared fresh before use, by taking 6 c.c. of the stock solution and making it up to 120 c.c. with water. For irrigation purposes, either anterior or into the bladder, it may be injected by a Valentine irrigator, or preferably, in our experience, by means of a Janet-Frank, glass-barreled syringe of 120-c.c. capacity, supplied with a Wheeler tip. For hand injection by the patient, the one-half per cent solution should be ordered (one gram of the drug dissolved

in 200 c.c. of water) and injected by means of a two-dram capacity, glass-barreled plungerless syringe. Its non-staining property particularly appeals to the patient.

Personal Hygiene.—The observance, on the part of the patient, of certain rules of hygiene and conduct, is of the utmost importance in obtaining the best results of the treatment. These include the avoidance of sexual excitement, undue physical exertion, alcoholic beverages, condiments and highly spiced foods. The patient is instructed to drink water frequently and copiously and to take proper measures to keep the bowels open.

Internal Medication.—Drugs administered by the mouth seem to play very little if any, part in the alleviation of symptoms or in the hastening of a cure. For the occasional burning in acute posterior involvement, twenty drops of tincture of hyoscyamus, in water, every four hours, will bring relief. Drugs of the hexamethylenamine type may tend to liberate their antiseptic properties in the urine, but actual experience has failed to demonstrate their usefulness.

Local Treatment.—This varies with the location of the trouble, depending on whether the process is anterior or antero-posterior. However, in all cases in which a purulent discharge containing gonococci exists, the patient is advised to immediately begin hand injections at home, with one-half per cent silver proteinate solution. These should be repeated four times a day—on rising, at noon, in the early evening and before retiring. The patient should be carefully instructed in the technique of the injection; that is, first to empty the bladder, then to inject the contents of a two-dram capacity syringe into the urethra and then pinching the meatus. The medicine should be retained in the urethra for ten minutes of actual time, by the clock, after which it is allowed to run out. The practice of keeping absorbent cotton over the meatus to collect the pus should be avoided, because the cotton becomes glued to the meatus and prevents free drainage. Where the discharge is so profuse as to require a protective dressing, this is best obtained by making a hole in a piece of gauze about four inches square and slipping the glans through the opening so that the gauze fits in the corona; the prepuce is then pulled forward and holds the gauze in place.

In addition to the home treatment, the patient should be required to visit the clinic or office, daily. The examination should include the microscopic examination of the urethral discharge and the performance of the two-glass test. If the patient has only anterior involvement, he should receive an anterior irrigation of the one-half per cent proteinate solution, which may be given from a Valentine irrigator, or, far more preferably, by the Janet-Frank syringe previously mentioned. The 120-c.c. capacity, glass-barreled Janet-Frank syringe, fitted with the soft rubber Wheeler tip, is used exclusively in our clinic. The patient, having emptied his bladder, is seated on the edge of a table, with his feet resting on the floor or on a footstool, and holds a pus basin under the penis with his left hand. The operator stands to the right, holding the patient's penis between the third and fourth fingers of his left hand, the thumb and index finger steadying the glans. The rubber tip of the syringe, which the operator holds in his right hand, is fitted firmly into the meatus, and the medicine is injected until the urethra is felt to be fully distended. The fluid is then allowed to run out and the urethra reinjected, the process being continued until the syringeful of solution has been used up.

In most anterior cases, especially where treatment has been instituted soon enough, after a week of the above treatment, considerable improvement should be noted. The regime should be continued, however, until the gonococci have disappeared from the discharge and the discharge is considerably diminished, when the hand injection should be cut down to three times a day and the irrigation given every other day. When the discharge has disappeared entirely and the urine has cleared up (except for, possibly, a few shreds), the hand injection may be used twice a day and the irrigations every third day for one week, after which the irrigations are discontinued and the patient uses the hand injection only on arising. If after a week's treatment with one injection a day, there has been no return of the discharge, all treatment should be discontinued for two weeks. The discontinuance of the treatment acts as a provocative test and if there are any gonococci lurking about, they are very likely to develop upon the cessation of treatment. However, if there has been no return of the discharge at the end of the two weeks' interval, the second provocative test should be given. This consists of passing a fairly good sized sound and allowing it to remain in the urethra for about five minutes. This should be repeated every third day for three sittings. If no acute symptoms have reappeared, the case may pretty safely be discharged as cured.

If a patient with acute gonorrhoea, on his first examination or during the course of his treatment, voids turbid urine in both glasses, the case may be regarded as having posterior involvement. In these antero-posterior cases,

as long as there is purulent discharge from the urethra the treatment to the anterior urethra is the same as has just been described. In addition, the patient should be given, every other day, an irrigation into the bladder, followed by a prostatic massage.

The patient's bladder should be empty and two drams of 1 per cent cocaine or procaine, solution injected with a urethral syringe, the patient retaining it for about three minutes. The purpose of this is to permit of more ready relaxation of the bladder sphincter and thus allow the irrigating fluid to enter the bladder. The patient is also instructed to breathe through his mouth and to relax the bladder muscles, as in the act of urinating. When three or four ounces of the proteinate solution has been injected into the bladder, the patient is instructed to retain it and, with the bladder full, the prostate is massaged. For the prostatic massage the patient should bend over a table and hold a tumbler under the penis, to collect the prostatic secretion. Three or four strokes to each lobe of the prostate is sufficient. A few drops of the secretion, as it comes out of the urethra, are collected on a glass slide and the patient is told to empty his bladder. The prostate should never be massaged unless the bladder has been filled in this way, because the infectious material expressed from the prostate and vesicles, if not immediately washed out by the emptying of the bladder will be spread around and cause reinfection.

The prostatic secretion should be examined microscopically, stained either by Gram's method or by methylene blue, or by using the fresh moist smear. In our experience, examination of the fresh prostatic secretion has been found sufficient. It is unusual to find gonococci in the prostatic secretion, except in the very acute cases, so that the only other important feature to be noted in the secretion is the presence and quantity of pus cells, which can easily be seen under the microscope with the high, dry objective.

As the urethral discharge begins to subside, the treatment to the anterior urethra may be gradually withdrawn. The frequency of the hand injections is diminished, and when the discharge has disappeared, the anterior irrigations may be dispensed with. However, as long as both glasses show turbid urine, the irrigations into the bladder, followed by prostatic massage, should be given every other day and should be kept up until both glasses are clear. Only then should the interval between the treatments be lengthened, although treatment should not be suspended until both glasses are free from shreds, especially the small "comma-shreds," which are characteristic of prostatic involvement.

It is not possible to use the microscopic examination of the prostatic secretion as a guide to the cessation of treatment, because it is extremely doubtful if the secretion from a prostate which has once been infected, will ever be free from microscopic pus. The same provocative tests as were recommended for anterior gonorrhoea, are applicable to the posterior cases, and if the cessation of treatment and passing a few sounds fails to cause reappearance of symptoms, the patient may be dismissed. It is extremely difficult, however, in these posterior cases to say just when a cure has been effected, and where possible, final judgment should not be passed unless the patient has been under observation for a period of at least a year after treatment has been stopped, and has had the urine and prostatic secretion examined from time to time.

SUMMARY.

1. One-half per cent solution of proteinate of silver is an effective preparation in the treatment of acute gonorrhoea.
2. Treatment may and should be instituted as soon as the diagnosis is established.
3. Internal treatment has but very limited application in gonorrhoea.
4. In anterior cases, the proteinate is used as a hand injection by the patient and for irrigations by the physicians.
5. In addition, antero-posterior cases should receive, every other day, an irrigation into the bladder, followed by prostatic massage.
6. As the symptoms subside, treatment should be gradually withdrawn, and no case should be discharged as cured unless the performance of provocative tests has failed to cause reappearance of the disease.

THE KAHN PRECIPITATION TEST FOR SYPHILIS.

The results in 1,000 cases in which the Kahn and the Wassermann tests were made by Janet Holmes, St. Louis (*Journal A. M. A.*, July 28, 1923), show a very close correlation between the two tests, with the balance in favor of the Kahn, the Kahn test showing a greater sensitivity, especially in treated cases. The Kahn test has the further advantage in that anticomplementary serums give a normal reaction in the precipitation test. Attention, however, should be drawn to the fact that in the Kahn test it is necessary that all serums be absolutely clear. Any fat, for instance, in the serum makes a reading practically impossible, and even slight hemolysis of the serum makes reading difficult. The necessity for care in the mixing of antigens to prevent spontaneous precipitation in nonsyphilitic serums must not be overlooked. But, as the case stands, the outlook for the Kahn test seems most favorable, and with more work on the standardization of antigens, we may hope in the future for a test that will relieve the laboratory of the intricacies of the Wassermann reaction.

PURPURA HEMORRHAGICA: DIFFERENTIAL DIAGNOSIS, TREATMENT AND PRESENTATION OF CASES.*

BY

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The purpose of this paper is primarily to present the clinical and pathological findings, as they were observed by us, in the hospital wards and at autopsy, in two cases of purpura hemorrhagica.

Purpura Hemorrhagica, as a disease, occurs in two forms, an Idiopathic and a Symptomatic.

Idiopathic Purpura Hemorrhagica is a disease entity and is so considered by several reliable authorities.[1] It is distinguished from the other hemorrhagic diseases by several features. There are hemorrhages from one or more mucous membranes, and in nearly all cases subcutaneous areas of hemorrhagic infiltration are seen; further, the blood has a definite decrease in platelet content. The coagulation time is found to be normal[2] or nearly so, and the prothrombin time is not increased, but the bleeding time is definitely increased[3] and this increase is usually proportional to the platelet deficit, as shown in the peripheral blood. Another constant finding is the presence of a non-retractile blood clot, a feature dependent upon the lowered platelet count. There is an entire absence of a determinable cause for the condition.

As an example of this form of purpura hemorrhagica, we present the following case, observed in the wards of the John Sealy Hospital, Galveston, by one of us (M), which is presented through the courtesy of Dr. M. L. Graves:

Case No. 1.—A male negro, about 40 years of age, The patient was admitted to the hospital, January 23, 1922, at which time he complained of bleeding from the gums.

His family history is entirely negative and he knows of no familial hemorrhagic tendency. Two years prior to the present illness, the patient was treated for so-called rheumatism, at which time he had an acute anterior urethritis that was diagnosed as a specific infection. He had a painful and swollen testicle. After being bed-ridden for six weeks, the patient recovered and has had no recurrences. He has had no other illnesses. He eats a general diet and prefers carbohydrates. He drinks from 8 to 10 cups of coffee daily. He is a longshoreman by occupation.

Three days prior to admission, the patient noticed that his sputum was about the color of tobacco. There was no pain. The bleeding became worse the next day, and that night he bled freely from his mouth. He has had no abdominal cramps or pains, and no joint involvement since that mentioned above. The only pain he has is in the roof of his mouth. He is fairly well nourished, of spare but muscular build, and answers questions clearly. The mucous membrane of the oral cavity is pale in color, and the sclera of the eye is pale. A pterygium is present on the inner surface of each eye ball.

The lymph glands of the head and neck are palpable. There are numerous carious teeth. Many areas of petechial hemorrhages are seen on the alveolar borders, and the tongue is similarly involved. The right anterior faucial pillar and the adjacent oral vault, show a large, raised and discolored area that fluctuates and is painful to deep pressure. This is a hematoma. Other than the above, the physical examination is normal. The skin shows no hemorrhagic areas and the joints are not involved. The blood pressure is 105-75 mm. Hg.

From the laboratory findings we note that on January 24 the urine was red in color, acid in reaction and with a specific gravity of 1028. There was a red sediment and a heavy cloud of albumen. There was no sugar. The chemical test for blood was positive. There were many red cells but no casts. Blood count showed, red cells, 2,558,000; white corpuscles, 7,200; hemaglobin, 50%; polys, 66%; lymphocytes, 32%; eosinophils, 1%; myelocytes, 1%. There were no blood platelets. Coagulation began in 2½ minutes and was complete in 4½ minutes. Bleeding time from the finger was one hour, following puncture with a Hagedorn needle.

January 25, the blood Wassermann was negative, with acetone insoluble and cholesterinized antigens.

January 27, blood chemistry showed, T. N. P. N., 34.8; urea nitrogen, 23.4, and creatinine, 1.4. Blood count at this date showed, white corpuscles, 6,100; polys, 64%; lymphocytes, 35%, and myelocytes, 1%.

January 31, there were 78 blood platelets per cum.

February 5, the urine was acid in reaction, with a specific gravity of 1010, and negative for albumen. There were no red blood cells and no blood in the chemical test.

February 10, there were 9,800 blood platelets per cum.

February 26, there were 28,080 blood platelets per cum.

February 27, the blood clot contracted after standing two hours.

March 5, there were 4,864,000 red blood corpuscles; 6,000 white blood corpuscles; 90% hemaglobin; 52% polys and 40% mononuclearlymphocytes. There were many blood platelets and no nucleated red cells.

March 7, there were 70,560 platelets per cum, and the clot contracted after two hours.

January 23, 20 c.c. hemostatic serum were given. This was repeated 10 hours later.

January 25, the patient was given a transfusion of 400 c.c. of compatible blood, by the citrate method. There was a slight reaction following this, which passed off after the administration of stimulants.

February 6, another transfusion was given of 500 c.c. of compatible blood, by the citrate method. There was another slight reaction. The patient had a chill and his temperature arose to 100° F.

At this time sodium cacodylate was begun, and the patient received 3 grs. daily until discharged. He also received Blauds pills, one three times a day, until he left the hospital. Cascarasagrada was used to keep the bowels open.

The diet consisted of liquids for the first two weeks. After the hematoma had cleared from the oral vault, he was placed upon a diet, for the most part consisting of milk and eggs.

A mouth wash of potassium chlorate was also used and the gums were painted with a 5 per cent solution of Dionine.

*Read before the State Pathological Society of Texas, Waco, Texas, October 17, 1922. From the Laboratory of Pathology of the University of Texas, Medical Department, Galveston, Texas.

1. Minot, G. R.: Jour. Med. Sc., 1916, Vol. ciii, No. 48.
2. Minot, G. R.: Nelson's Loose Leaf Medicine, Vol. iv, p. 116.
3. Duke, W. W.: Arch. Int. Med., 1912, Vol. x, p. 445.

At the time the patient was admitted he was having free hemorrhages from the mucous membranes. The temperature was normal. The pulse rate had increased to 106 beats per minute, and he was very cyanotic. Following the use of the hemostatic serum, the patient improved, as was shown by the lowered pulse rate. However, the real improvement did not come until after he had received the first transfusion; and this was only temporary, for the blood platelets did not come up to a normal level—in fact, they failed to increase noticeably. An increase did not occur until after the second transfusion, three days after which the blood showed 9,800 platelets per cm., but the clot failed to contract.

We felt sure the patient was on the road to improvement. The urine showed an absence of blood, the hemorrhages no longer occurred from the gums, and the hematoma cleared from the oral vault. This early recovery and ameloriation of symptoms, was directly attributable to the transfusions and the raising of the platelet level, as well as overcoming the anemia that the condition had brought about. However, the continued improvement we attribute to the regained activity of the platelet formers, for the blood platelets last only 3 days[4] in cases of transfusion, though the erythrocytes last for from 10 days to 5 months.[5] The anemia was also overcome by the transfusion, as shown by the blood counts, the patient, when the final count was made, having doubled his count over that at the time of admission.

The patient has returned to his work upon the docks, and says that he feels equal to the strenuous demands made upon him. There have been no recurrences of the hemorrhages, and his urine is normal. He has gained 4 pounds since he left the hospital.

In the differential diagnosis, the difference from aplastic anemia was the most difficult to determine. In this, dependence was placed upon the following: The extreme rapidity of onset; the fact that the hemorrhages preceded the anemia; the absence of the leucopenia so often associated with aplastic anemia; the absence of a relative lymphocytosis, which is another rather constant feature of plastic anemia. Though the blood platelets are found to be reduced in number in aplastic anemia, this reduction is very late, while in the case presented the platelets were absent at the very first of the disease. Still further, the course of this case is not that of aplastic anemia. The transfusions were efficacious in checking the hemorrhages. Then, cases of aplastic anemia do not recover, while this case did.[6]

Hemophilia was considered in the differential diagnosis, for sporadic cases are known to occur. We base the differential here upon the facts that the blood platelets in hemophilia are not lowered in number, but are deficient physiologically. Further, the coagulation time is increased in hemophilia, while the bleeding time is found to be normal. In this case the exact reverse is found. Another constant point of difference is found, namely, the contractibility of the blood clot, and this phenomenon, first described by Hayem, is found to occur in hemophilia, as it does in normal blood, while in purpura hemorrhagica the clot fails to contract.

There was some question of lack of cause for the condition in the case presented, and our search for an etiological factor was a failure; hence we felt at liberty to look upon this as an example of idiopathic purpura hemorrhagica.

4. Duke, W. W.: Jour. Exper Med., 1911, Vol. xiv, p. 265.
5. Ashby, W.: Jour. Exper. Med., 1919, Vol. xxix, p. 267.
6. Minot, G. R.: Oxford Loose Leaf Medicine, Vol ii, p. 610.
7. Osler and McCrae: The Principles and Practice of Medicine, 9th Ed., p. 446.
8. Osler and McCrae: The Principles and Practice of Medicine, p. 351.

Scurvy was also differentiated from, and we base the elimination of this condition upon the character of the patient's diet and the blood findings. Scurvy does not produce the blood picture found in this case. The patient also lacked the brawny induration of the thighs seen so often in scurvy.

Symptomatic purpura hemorrhagica, the second form of this disease, occurs most often in association with aplastic anemia, the leukemias, diphtheria and focal infections. The features of this type of the disease are identical with those of the idiopathic form, but the line of demarcation is the presence of a discoverable cause for this second form. As an example, we present the following case:

Case No. 2.—A male Chinese, about 22 years old, was admitted to the hospital, August 13, 1922, complaining of bleeding from the mouth, and of "spots" on his skin.

The family history was negative and there was no history of familial hemorrhagic tendency. The patient said that he had always had a weak stomach, but his description of this condition was not clear. He has had no venereal disease.

About three days prior to admission, the patient received a small cut on the left forefinger, which bled for an hour. There was some discoloration of the skin about the cut. For several days before the injury, he had been suffering from a violent toothache in the right lower jaw. The jaw had swollen two days before the injury. He felt as though he had fever, and became nervous over his condition. He consulted a doctor, who advised him to enter the hospital. During the three days that elapsed before he presented himself for admission, he noticed that several large areas were becoming darker in color. These were over the neck and shoulders, and varied in size from a pin head to the size of the hand.

The patient appeared to be well nourished. There were numerous areas of petechial hemorrhages over the head and neck. There were numerous small hemorrhagic areas upon the mucous membrane of the mouth and the right side of the tongue. The thorax was negative, as was the cardio-vascular system. The pulse was strong, but the rate was 104 beats per minute. The blood pressure was 128-55 mm. hg. Many purple spots were seen over the shoulders and back, which were more numerous and much larger at the sites of pressure. The abdomen was normal. The teeth showed much sordes and the gums were swollen. The jaw on the right side was swollen and felt hot to the touch. Pain was complained of when the jaw was pressed upon. The legs showed many purpuric spots.

From the laboratory findings we take the following:

August 14, the urine showed blood red, with a specific gravity of 1013, acid reaction and a heavy ring of albumen. There was no sugar and microscopic examination showed many red blood cells but no casts. Blood count showed red blood cells, 3,296,000; white cells, 600; hemoglobin, 60 per cent, and no blood platelets. Coagulation began at three minutes and forty seconds and was complete in eight minutes and forty seconds. The Wassermann test was negative, using acetone insoluble antigen.

August 15, blood count showed red cells, 2,448,000; white blood cells, 720; hemoglobin, 60 per cent; polys, 9 per cent; lymphocytes, 79 per cent; mononuclear lymphocytes, 9 per cent; eosinophiles, 3 per cent. There were no blood platelets and the clot was nonretractile after two hours. Blood culture was sterile after one month of observation.

The patient was placed upon a liquid diet. Ice bags were applied to his right jaw, and he was given 5 grains of aspirin and 5 grains of phenacetine. He was given a calomel, rhubarb and colocinth pill on the night following admission. Dobell's solution was used as a mouth wash.

On August 15, the patient was given adrenalin, 1/1000 solution, as a mouth wash, every two hours, and a cold sponge ordered for each day.

August 21, a transfusion of 400 c.c. citrated blood was given. Dr. Joseph Kopecky stated that the patient was in group III, and it had been difficult to obtain a donor.

At the time of admisison to the hospital, the patient had a temperature of 102° F, pulse 104 per minute and respiration 24. The temperature continued high throughout the illness, at times reaching 104° F., and never falling below 100°. The pulse varied from 96 beats per minute to 156, but was regular at all times.

On August 21, the temperature fell to 100° F., and the pulse rate was so rapid it could not be counted.

At times in the latter part of his illness the patient was comatose, and carphologia was present. He showed some signs of meningeal irritation, as evidenced by a positive Kernig and a slight nuchal rigidity. He died August 21.

An autopsy was allowed, and the report is given later, under the discussion of the pathology of purpura hemorrhagica.

In the differential diagnosis scurvy as a possibility was considered, but the elimination of this condition seemed possible because of the mode of onset, the lack of a sufficiently restricted dietary (if we accept the theory of an avitaminosis as the most prominent factor in the etiology of scurvy), and the blood findings for scurvy do not show the abnormalities that we found in this case. The temperature does not reach the high level in scorbutus that it did in this case.

The question of typhus came up, and we based the differential upon the absence of typhus fever in the district, the absence of pediculosis, the blood findings and, in retrospect, the mode of termination is not the same in typhus. The temperature in typhus rises to a very high level in the agonal period, while in this case it fell to 100°.

Hemophilia is differentiated by the same method as in the idiopathic variety.

In eliminating the simple form of symptomatic purpura, we felt that the definite blood findings were all that such a differential required. The platelet destruction was marked, while in simple purpura the platelets are normal in number. The fact that our case showed hemorrhages from the mucous membranes is also a feature we desire to point out. This does not occur in the simple form of symptomatic purpura.

In including the aplastic anemia of Ehrlich in the differential diagnosis, we must give due regard to the fact that symptomatic purpura hemorrhagica is a frequent occurrence in the course of aplastic anemia, but usually it is a late development, while in the case at hand the purpuric eruption was a very early manifestation. Yet we grant that the toxin which produced the clinical syndrome in this case was indeed powerful, and the bone-marrow showed no ability to overcome this toxic invasion. The red blood cells made no effort at regeneration, and the leucoblastic factor of the bone-marrow allowed the leucocytes in the circulation to sink to 600 per cubic millimeter. Hence, we may have had a case of symptomatic aplastic anemia in which a symptomatic purpura hemorrhagica developed.

We thought this case was one of streptococcic septicemia as a result of the invasion of the blood stream by an hemolytic streptococcus, but the blood culture proved to be negative. Because of the pres ence of an alveolar abscess and signs of an intens toxemia, namely, a comatose condition, a very sligh nuchal rigidity and carphologia, a very high tem perature, which was of a constant and unremittin type we concluded that this case was a local infec tion, with the absorption of toxins, or that it wa a focal infection.

No matter which diagnosis be accepted, we wis to stress the fact that in this case there was a symp tomatic purpura hemorrhagica.

According to Christian[9], the hemorrhage i purpura hemorrhagica is attributable to tw factors: First, the decrease in the number o blood platelets, and second, some local chang in the vessel wall which either allows th blood to pass through with greater ease o permits easier rupture by slight degrees o trauma.

Three roads are open, and all lead to th same end, a decrease in the number of bloo platelets in the circulating blood. First, ther is a destruction of the blood platelets afte their formation from the megacaryocytes o the bone marrow, which occurs in such con ditions as idiopathic purpura hemorrhagica Such a statement is borne out by the work o Minot[10] and the experimenal work of Leding ham and Bedson.[11] Second, the platelets ma be reduced by stopping the normal process o their formation from the megacaryocytes o the marrow. We see this type of destruc tion at work in aplastic anemia, where all o the marrow factors are involved, but curious to say, the megacaryocytes are involved lat in the condition, hence we usually see a symp tomatic purpura hemorrhagica developing a a late occurrence in aplastic anemia. But we must not overlook the fact that there ma be a process which affects only the plate let formers. As yet this type has not beer proven at autopsy or by animal experimenta tion. Yet this seems to be a clinical finding in certain cases of idiopathic purpura hemor rhagica. Third, there may be a destructior of the megacaryocytes in the marrow. This mode of destruction is at work in such condi tions as the leukemias, where the abnorma cells have produced a condition of myeloph thisis by crowding the normal marrow con stituents from the marrow cavity, or destroy ing them by pressure necrosis.

That the increased bleeding time is due t the decrease in the number of blood platelets is an observation of Duke, in his work upor purpura hemorrhagica and chloroform poi soning. In these conditions the blood shows a decrease in fibrinogen content and this coupled with an absence of the activating sub stance, thrombin, which comes from the blood

9. Christian, H. A.: Oxford Loose Leaf Medicine, Vol. ii p. 779.
10. Minot, G. R.: Arch. Int. Med., 1917, Vol. xix, p. 1062.
11. Ledingham, J. C. G., and Bedson, S. P.: London, Lancet Vol. i, p. 311.

platelets, explains in a measure some of the phenomenon seen in the condition under discussion.

However, there are other factors at work, and we desire to repeat some of the observations of Duke. The big factor in this disease is the failure of thrombus formation, and this is due to the platelet deficit. We are all familiar with the fact that it is not alone the surface clot which stops bleeding. The immediate arrest of hemorrhage is due to the formation of a thrombus in the end of the open vessel. The cement substance of such a thrombus is the blood platelets, and in conditions in which these are reduced, obviously there is less of this material to bind the erythrocytes, leucocytes and fibrin into a firm clot.

It seems significant to us that in the cases cited in this paper, especially case No. 2, the hemorrhages were more profuse at the sites of pressure, the back, the limbs and the posterior surface of the calves. It appears to us that this condition is the result of some weakening of the vessel walls, as a result of the same toxin that produced the platelet destruction, or some other agency that we are not familiar with. We give these, not as definite facts, but rather as impressions, for we are as yet unable to determine what such changes are.

The fact that an autopsy was granted upon the body of the patient in Case No. 2, makes it possible for us, in discussing the morbid anatomy of this condition, to copy from the autopsy protocol, as follows:

"The body is that of a fairly well nourished male Chinese. There is a slight rigor mortis. The pupils are dilated and are equal. Dark purplish areas, varying in size from a pin head to several centimeters across, either round, oval or irregular in shape, are seen scattered over the whole body, but are more numerous over the shoulders and at the root of the neck. These areas are the result of ante-mortem extravasation of blood into the subcutaneous tissues.

"In the pericardium, especially the visceral layer, many bright reddish areas are seen. These areas are about the size of a split pea, or smaller, and are irregular in outline (Fig. I). Upon microscopic examination of a section of the visceral pericardium, these reddish areas are seen to be the result of ecchymotic hemorrhages into the pericardium. This hemorrhage does not appear to be the result of a rupture of the vessel wall, for the vessel walls are intact and the blood appears to have entered the tissues as a result of some change in the permeability of the vessel walls. The cardiac musculature is not involved in this hemorrhagic change. Similar areas are also seen in the endocardium.

"The lungs show evidences of hypostatic congestion in the gross and in the microscopic examination of the tissue sections.

"There is no clotting of blood in the heart or elsewhere in the thoracic tissues.

"The spleen is slightly increased in size, but the microscopic examination of the splenic tissue does not reveal any pathological change, other than a slight increase in blood in the tissue.

"The left kidney is slightly larger than normal. The kidney pelvis is filled with loosely clotted blood

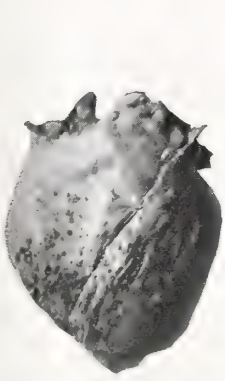

FIG. 1.—Hemorrhage into visceral pericardium in symptomatic purpura Hemorrhagica (Case No. 2).

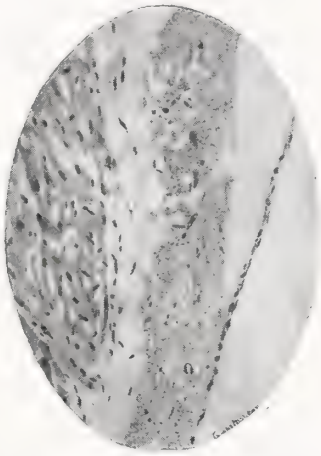

FIG. 2.—Section of visceral pericardium showing hemorrhagic areas (Case No. 2).

(Fig. 2). A section of the kidney tissue, including the pelvic tissue, shows a large mass of hemorrhage into the pelvis and into the connective tissue lining the pelvis. This hemorrhage also appears to have been brought about without the rupture of the vessel walls (Fig. 3). There is some hemorrhage into the perirenal tissues. The right kidney shows the same changes as the left.

"The liver is slightly larger than normal, and the cut surface is paler than normal. The microscopic sections show the presence of parenchymatous degeneration and some necrosis of the parenchymatous cells of the liver. This change is marked about the central vein of the lobule.

"The stomach shows small areas of submucous hemorrhages. A large area of dark color is seen in

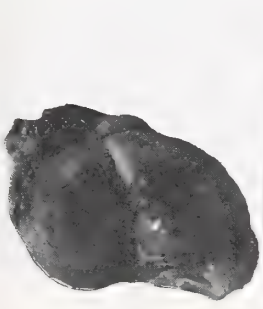

FIG. 3.—Hemorrhagica changes in kidney in symptomatic purpura hemorrhagica (Case No. 2).

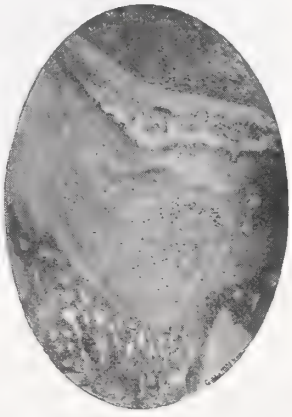

FIG. 4.—Hemorrhages in kidney pelvis (Case No. 2).

the lower part of the large intestine; this is a blood clot. Many areas of hemorrhage are seen scattered over the mesentery and other peritoneal surfaces.

"The inner surface of the urinary bladder presents a small hemorrhage area. (Fig. 4).

"For private reasons, the brain and cord were not examined."

SUMMARY.

1. The clinical histories of two cases of purpura hemorrhagica are presented, one of the idiopathic form and the other symptomatic.

2. The differential diagnosis of this condition from those conditions with which it is most likely to be confused, is considered.

3. The treatment in these two cases is outlined.

4. The pathology as it is manifested at autopsy in one of the clinical cases, is discussed.

STRICTURE OF THE RECTUM*

BY

CURTICE ROSSER, M. D.,

DALLAS TEXAS

The greater incidence of stricture of the rectum in communities with large negro population lends interest to this unfortunate condition in southern proctology. Sufficiently common in southern communities to be of possible occurrence in any individual's practice, there is nevertheless no satisfactory, standardized treatment, principally because of the chronicity of the condition, its comparative incurability, and the fact, affecting as it does mainly the substrata of civilization, that therapeutic results are difficult to follow. Consequently, it is believed that a study of the thirty-two cases treated in Baylor Hospital during the last four years, may be of some practical benefit. (Chart I).

Fig. 1. Annular Stricture (Case 16).

The causes of stricture usually assigned include tuberculosis, traumatism (operations, labor, etc.), venereal diseases, ulcerative rec titis, congenital defect and neoplasm. Malig nant strictures and those due to extra-rect tumors will not be included in this discussio For practical purposes all benign stenose may be classified as annular (Fig. 1) c tubular (Fig. 2), designating as annula hypertrophies of the rectal valves which pr

Fig. 2. Tubular Stricture, Entire Rectum (Case 15).

marily involve two-thirds of the wall, bu which in later stages, in Gant's opinion[1] ma develop into complete annular occlusion.

The symptoms most suggestive of this co dition are: increasing, marked constipation tapelike stools; sanguino-purulent discharg and condylomatous or hypertrophic anal e crescences. (Fig. 3). Pain or loss of weigh may be present. As over 90 per cent of th strictures lie within two and a half inches c the anus, the diagnosis is made by digital e amination, supplemented by the anoscop proctoscope, bougie and radiograph. Malig nancy is excluded by the absence of excessiv weight loss, tumor, crater-like ulceration c putrid odor—if necessary by biopsy.

The etiological influence of lues has pr vided definite interest in the available liter ture. Jones[2], who with Day[3] believed tha 75 per cent of the negro race is syphilized, r ported 48 cases of stricture in 1903 (a negroes), and stated that in his opinion a were luetic. Later authorities, checked b the Wassermann test, have given somewha

*Read before the Section on Surgery, State Medical Association of Texas, May 10, 1923. From the Department of Surgery, Baylor Medical School.

1. Gant, S. G.: "Diseases of the Rectum, Anus and Colon Saunders Co., 1923.
2. Jones, F.; "Syphilis in the Negro," Jour. A. M. A., 190 42, p. 32.
3. Day, G. H.: "Urological Idiosyncrasies Presented by t Negro," Jour. Urol. (Balt.), 1921, 5, p. 19.

lower percentages, although there are few who would deny the tremendous part played by the spirochaete in stricture. Hartmann[4] found that 35 per cent of his 86 cases had positive Wassermann reactions, while Allingham and many others, believe that as high as 50 per cent of these cases have a syphilitic basis.

Goodsall and Miles (quoted by Hartmann) suggest that chronic pelvic inflammation, with infiltration of perirectal lymphatic, is responsible. In this connection, Singleton (Galveston, Texas, personal communication) presents the idea that they are the result chronic. Aside from miscroscopic discovery of the gonococcus, there are no pathognomic signs, but rectoscopy aids in the diagnosis by exclusion.

The present series of 32 cases treated at Baylor Hospital (Dallas) since November, 1919, includes 20 strictures which came under my own observation, with all others on the hospital records for that period, and shows a preponderance of 24 females to 8 males; 19 were negro women, 2 Mexican women, 3 Caucasian women and 8 Caucasian males. All investigators have marked the predisposition of the female, the result, perhaps, of the careless use of douche tips, and contact infections from the vagina, even if there is no actual sex predilection.

CHART No. 1.

Showing 32 cases of stricture of the rectum in Baylor Hospital (Dallas) since 1919.

AUTHOR'S CASES.

Case	Sex	Type	Race	Age	Wass.	Pelv.	Probable Etiol.	Local Complic.	Op. Date	Op. Type	Anesthetic	Follow Up
1	F	Annul.	N	27	—	+	Nisc. Pr.		1919	Divulsion	General	No answer
2	F	Annul.	Mex.						1919	Divulsion	General	No answer
3	F	Annul.	N	33			Lues		1920	Divulsion	General	No answer
4	F	Tubul.	N	26	—	—		Fist. Condyl.	1923	Post-Proct.	Caudal	Much relief
5	F	Annul.	W	54	—	—	Ulc. Coli.		1921	Div.	General	Unrelieved
6	F	Annul.	N	23	+	+	Lues		1922	Intern. Pr.	General	Relief
7	F	Annul.	N	48	—	+	Nisc. Pr.		1921	Div.	General	No relief
8	F	Annul.	W	56		—	Hem. Op.		1921	Div.	General	Cured
9	F	Valvul.	N	38		+	Nisc. Pr.	Hemorrhoids	1922	Iodides		Cured
10	F	Annul.	N	28	+		Lues	Condylomata	1922	Salvarsan		Unrelieved
11	F	Annul.	N	50	—	—	Pr.	Fistula	1923	Post-Proct.	Caudal	Appar. cured 2 x.
12	F	Annul.	N	20	+		Lues		1923	Post-Proct.	Caudal	Appar. cured 2 x.
13	F	Annul.	N	34	+		Lues		1922	Int. Proct.	Caudal	Relieved
14	F	Annul.	N	28	—		Proctitis		1922	None		No relief
15	F	Tubul.	N	34	—	+	Nisc. Pr.		1922	Post-Proct.	Nitrous Ox.	Relief 6 mt.
16	F	Annul.	N	22	+		Lues	Gumma	1922	Post-Proct.	Caudal	Appar. cured
17	F	Annul.	N	21	+	+	Lues	Elephan.	1923	Post-Proct.	Caudal	2½ x.
18	F	Annul.	N	20	—	—	Proct.	Elephan.	1923	Int. Proct.	Caudal	Appar. cured
19	M	Valve	W	50			Hem. Op.	Ulceration Hemorrhage	1923	Valvotomy Resection	Caudal	Appar. cured
20	M	Valve	W	26	—		Proctitis	Spasm Papillae	1923 March	Valvotomy	Caudal	Rel. to date
CASES FROM BAYLOR HOSPITAL.												
21	F	Annul.	N	32	—			Fistula	1920	Div.	General	No answer
22	F	Annul.	N	45					1921	Div.	General	No answer
23	F	Annul.	N	27	—			Condy.	1921	Div.	General	No answer
24	F	Annul.	N	32					1921	Dil.	General	Much relief
25	F	Annul.	N	21				Hem.	1922	Dil.	General	No record
26	M	Annul.	W	65			Hem. Op.	Pruritis	1920	Div.	General	Temp. relief
27	M	Annul.	W	36			Congen.		1922	Dil.	General	No answer
28	M	Annul.	W	55				Hem. Fis.	1922	Dil.	General	Rel. 3 mos.
29	M	Annul.	W	32			Spasm		1921	Dil.	General	Cured
30	M	Annul.	W	47			Spasm		1919	Dil.	General	Cured
31	M	Annul.	W	38			Hem. Op.		1922	Dil.	General	Cured
32	F	Annul.	W	64			Hem. Op.		1919	Dil.	General	No answer

rather of gonorrheal proctitis with local ulceration, because ulceration with destruction of the mucosa precedes the stricture, and begins within the rectum rather than around it—an observation borne out by my own experience. Unquestionably anorectal gonorrhea is a serious factor in a certain percentage of cases. Weissmann[5] states that anorectal gonorrhea often runs an insidious course and escapes detection, but that it usually entails the same kind of lesions as in gonorrheal urethritis, and is equally liable to become

THE "FIBROPLASTIC DIATHESIS" OF THE AMERICAN NEGRO.

I have taken the liberty of coining this term to describe the recognized tendency towards fibrosis in the negro following injury to fibrous tissue, either by bacterial agents or mechanical traumatism. It is evidenced also by the keloid formation peculiar to the race; by the huge fibro-myomatas seen in negroes, and, as Day has shown, by the universal occurrence of urethral stricture in the colored male fol-

4. Hartmann, Henri; "Inflammatory Strictures of the Rectum," Lancet, 1922, CC, 11, p. 1307.

5. Weissmann, Levy: Anorectal Gonorrhea," Journ. d'Urol. (Paris) 1923, 14, p. 13.

lowing urethritis. Day believes that this idiosyncrasy, while accounting for the severe complications in the anterior urethra, and for the common inguinal adenitis in the negro, serves as a barrier to further extension of the infection. He also notes that where simple dilatation is attempted in these urethral strictures, an increase in the fibrosis follows, an

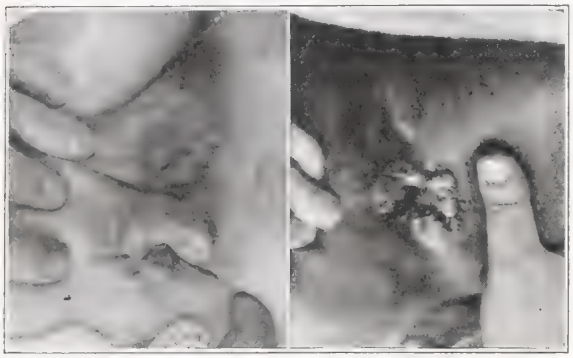

Fig. 3. Condylomata Accompanying Stricture (Case 4).
Fig. 4. Anovulvar Elephantiasis (Case 18).

observation paralleled by my own in the pathology under discussion.

Of the 11 cases occurring in white individuals, five were sequellae of hemorrhoidectomy, two were constant spasmodic constrictions and one was congenital. From follow-up letters we learned that all but one of these were cured by division and dilatation or valvotomy. The remaining 24 were of the usual chronic inflammatory type, in patients ranging from 21 to 55 years of age, but demonstrating a common onset in the third decade of life. In this group local complications were usual, fistulae occurring in 4, condylomata in 6, papillitis in 1, pruritis in 2, hemorrhoids in 3, hypertrophic skin tags in practically all, and ano-vulvar elephantiasis in two of the cases (Fig. 4). Of this group, 7 (30 per cent) gave a positive Wassermann, 10 had a negative Wassermann, and in the remaining cases test was not made. In 7 cases there was pronounced chronic pelvic inflammation. It would not seem, therefore, that we are justified in stating that either of the venereal infections is the sole causative factor. There were no cases in which tuberculosis was suspected as etiologic; nor would we expect to see it cause stenosis of the large intestine. Moreover, tuberculous ulcers of the rectum are usually secondary, and occur in individuals of lowered resistance, in whom complete healing and cicatrix formation would be unusual.

Efficient prophylaxis would require early visual examination in rectitis from whatever cause, early medication of ulcers, stretching of ulcer scars while in the plastic state, early intensive treatment of rectal lues, and routine postoperative dilatation followed by hemorrhoidectomy.

Treatment at best leaves much to be desired. Salvarsan has no effect on formed scars. Bougies are slow and painful, and usually ineffective. Dilatation, divulsion or simple internal proctotomy (practiced in my earlier cases, and I note in all the cases from other services recorded in this series) affords temporary relief in the inflammatory group, being followed by reduplication of fibrous tissue, and in some cases by the appearance of a tubular stricture where annular occlusion was present primarily (Fig. 5). Excision, theoretically ideal, is perilous in infected neighborhoods, and of doubtful value in the presence of the "fibroplastic diathesis."

I have obtained the most satisfactory results by excising the posterior portion of the stricture with a Yeoman's biopsy forceps,[6] followed by posterior proctotomy. Where weekly dilatations for several months thereafter are done, a permanent patulous canal is obtained. Where this procedure fails, permanent colostomy is indicated. We have, however, re-

Fig. 5. Tubular stricture resulting from divulsion of annular occlusion (Case 11).

served this operation, with its attendant discomfort, for cases resistant to all other treatment.

Posterior proctotomy can be done under nitrous oxide, infiltration or, preferably, caudal anesthesia. The latter is the anesthetic of choice in any major rectal procedure, and has been used with satisfaction in nine

6. Yoemans, Frank C.; "Stricture of the Rectum," Jour. A. M. A., 1919, 73, p. 829.

of my own cases. Approximately 100 cc. of 1 per cent novocain, freshly prepared, is injected in the sacral hiatus, and in thirty minutes anesthesia is complete where effective. The only reaction seen is a marked increase in the pulse rate.

It is essential that a wide groove be obtained, which permits proper postoperative

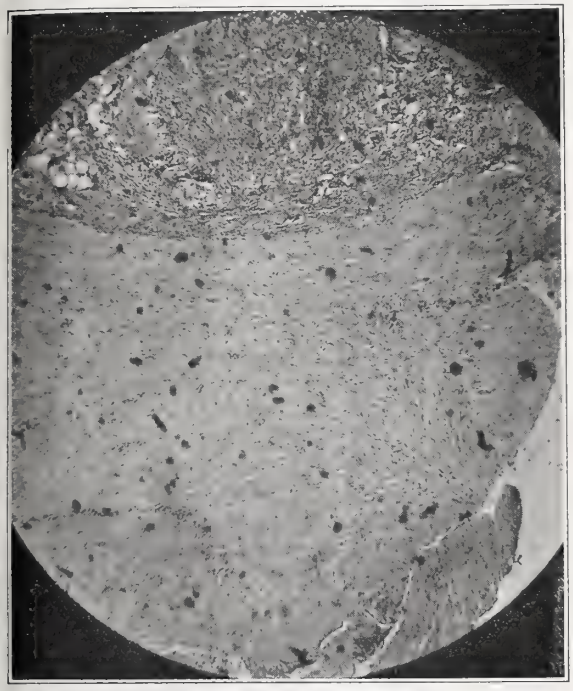

Fig. 6. Photomicrograph of Section of Stricture in Case 4, Active, Chronic Inflammation.

care—daily saline irrigations and weekly dilatations with a large bivalve rectal speculum.

Operative mortality has been absent, and no complications have followed, unless the inflammatory condition is active (Fig. 6). In these cases, hyperpyrexia is present for about thirty-six hours, without abdominal rigidity. Incredible as it may seem, in none of these cases has definite incontinence followed division of both sphincters.

COMMENT.

Benign stricture of the rectum is a practically incurable condition, due chiefly to the chronic infections, notably syphilis and gonorrhea. Females, especially those of African descent, are strongly predisposed. Prophylactic treatment is important where possible. Surgery is indicated, even though it does not offer an anatomic cure.

ABSTRACT OF DISCUSSION.

Dr. L. C. Ellis, Dallas: Those of us who are doing this kind of work have ceased to be surprised and have become disgusted with the large percentage of people suffering with rectal pathology who are treated for some other disease. There are so few rectal examinations being made by the general practitioner and surgeon, that it is not surprising how few strictures are diagnosed. I haven't had a great deal of experience with the negro. However, I have had considerable experience with strictures in white people, and I don't think that a large percentage come to operation. I believe that if we will devote time to these strictures and dilate them through the proctoscope, starting very gradually with small dilatation and increasing, we can relieve a good many of them.

It has not been my experience to find strictures in more women than men. I see so many more men than women, however, that I do not feel like making the comparison. The busy surgeon cares little for the treatment of ano-rectal diseases, but relieves the safest and quickest way by operation; but invariably the strictures recur, and gradual dilatation will be necessary for relief afterward. In treatment by dilatation, the patient should return at stated intervals, which will after a while not be more than once a year.

With reference to location of ulceration, which is a minor point, I believe the proctoscope will show that there is usually very small ulceration below the stricture, but invariably the induration is more pronounced above the stricture. The stricture extends upward and the ulceration is above and the constriction is below the ulceration; at least, that has been my experience, and the experience of those I have seen work.

There is just one point I want to leave with the surgeons, and that is to examine cases rectally before they are treated surgically. The statistics show that 80 per cent of people who reach middle age are suffering from some form of rectal trouble, and it is highly important, if we want to reduce our mortality and relieve our patients, to examine them rectally as often as we do for bad tonsils and teeth in cases of focal infections. I believe more cases of rectal pathology go undiagnosed than in any other field of medicine.

Dr. M. F. Bledsoe, Port Arthur: This is a subject, I think, that is neglected by the majority of us, and as Dr. Ellis has well said, we will find if we will examine our cases more carefully, that a large percentage have some form of trouble there.

I want to endorse the statement made by the essayist that strictures of the rectum are most frequently in the negro. All that I have ever seen, except one, have been in the negroes. I attribute them to lues, absolutely. I have never seen a case, except of malignancy, in the white race.

I have tried the gradual dilatation treatment, and have found to my disgust, that the stricture always recurs. I have avoided operative procedures, because the fibrous tissue, as well pointed out, is so prone to recur in the negro, especially so in cases of lues. Last year I treated a negro woman with the negative pole of the galvanic battery. She got some benefit, apparently, and when I went to see her for another illness some three or four months later, I found, to my disgust, the same condition a little more pronounced. The only relief in these cases comes from persistent, follow-up dilatation, as the author stated.

Recently some of my confreres, depending upon the Wassermann reaction, diagnosed cancer of the rectum in a negro. He had lost a great deal of flesh. He came to me, and notwithstanding a negative Wassermann I concluded he had syphilis. I put him on luetic treatment and he gained about thirty-five pounds; in fact, was able to go to work again, notwithstanding, mind you, a negative Wassermann.

Dr. E. V. Dickey, Dallas: Practically all the rectal strictures we see are in the negro and, nearly all of them in women. According to the old belief, we set

them all down as syphilitic. In later years we have been taking Wassermanns on those cases, and they are usually negative or indifferent. As to treatment, we found that dilatation was of little use. Gradual dilatation is perhaps of value, but we have never been able to accomplish anything with it, on account of the fact that, as a rule, it is so painful and the patients are of such an order of mentality that they rarely return for a second treatment. As a routine measure we do the complete external proctotomy, and that gives relief. Of course, we dilate afterwards, but as a rule not much. We do the proctotomy and dilate at the same time, of course being very careful if we believe the stricture is situated so a tear would penetrate the peritoneal cavity.

I agree with Dr. Ellis in his statement that a great deal of the ulceration is frequently found above the stricture. In those cases we find colostomy best, because then we can irrigate through and through, and we can also do our proctotomy while the abdomen is open. As a rule, it is thankless work, and it is hard to keep up with those patients unless you have a clinic in a large hospital, like Dr. Rosser has. After the complete proctotomy the patients feel much better, gain weight, and frequently return after four or five years for another one. Following proctotomy we have sometimes infectious material thrown into the blood stream, which produces violent chills, and sometimes the temperature jumps to 104° or 105° F., but we never have had any deaths. I don't know that we have ever completely cured any one of rectal stricture.

Dr. P. H. Scardino, Houston: I haven't had much experience in rectal surgery, but in one case I had such happy results, that I cannot resist reporting it. About ten years ago, a white man complained of an almost complete stricture of the rectum, about two inches up. Being at a loss as to how to best handle the case, I decided to do a proctotomy, a sort of modified Whitehead, incising around the anus, dissecting out and bringing down the gut, amputating just beyond the stricture and stitching the mucous membrane to the border of the skin. That was, of course, before the days of the Wassermann, and before the days of salvarsan. I put the patient on a mixed treatment. He has never had a recurrence, or even constipation.

Dr. Rosser, Closing: Of course, we have to divide these cases into the inflammatory type and those due to traumatism. In white people a certain number of cases are due to previous operations. That is a different situation. They differ in response to treatment, from the typical, inflammatory pathology seen in the negro. This type will sometimes yield to simple dilatation. They will yield to internal proctotomy, but when we come to the other group, most common in the negro race, any operation is to an extent a palliative affair, as far as my experience goes. A number of these patients had been dilated. I have tried it lately in a few cases and lost them—they didn't come back. Some of these cases had been dilated by other men, and they came to me. It is very painful to dilate a small stricture, and as Dr. Dickey has said, they occur mostly in people who have very little patience about it.

The procedure I suggest is, after all, simply an effective, palliative measure, and my experience has been, that if the operation is done and I don't see the patient any more, they will have recurrence without any question. Some of our patients not co-operating in after treatment, we have down as "apparently cured," but no doubt we will see all of them again. In dilatation, Symonds, reported recently in the proceedings of the Royal Proctological Society of London, says the use of bougies is limited, because of the danger of perforation, and that cases have been reported where the rectum has been torn throug and the peritoneal cavity entered, according to Hirsl man. In other words, there is a distinct element c danger in it. Proctotomy is a thing which you ca control. In other words, you get maximum dilat tion in posterior proctotomy (after which it is onl necessary to keep the stricture from contracting and you know where your division and stretching o curs, in the safe posterior line. In dilatation, eve though you visualize it through a proctoscope, m opinion is you don't know which way it is going t split, and how far.

RELATION OF PUBLIC HEALTH AND JUVENILE DELINQUENCY.*

BY

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My purpose is to convince all who ar concerning themselves about juvenile de linquency, both doctors and laymen, tha juvenile delinquency is the problem of th physician, not the policeman; that the hos pital, not the jail and reformatory, is th institution to which we must look for its solu tion; that especially has the public hygienis a responsibility for juvenile delinquency, a can be amply demonstrated.

As a basic consideration, the failure t observe the law requiring the registration o births may result in the moral undoing of child. Let me illustrate. In July, 1921, tw girls were arrested in a Texas city, charge with vagrancy, and carried to the county jail The first gave her age as sixteen. This girl whom we will call Agnes, was sent to th training school. The other girl, whom w will call Mary, declared that she was ove eighteen. It must be remembered that th juvenile court law applies only to girls unde eighteen. Mary's father and mother lived i a distant town and no effort was made b the authorities to verify or contradict Mary' statement. She was, therefore, fined an released. Fourteen months later Mary wa again arrested, in another Texas city, wher she was apparently living with her father an mother, but was in reality spending most o her time in a roadhouse. She had arrived a the proud distinction of being known as th "Roadhouse Queen." She had become a pros titute, addicted to whiskey, cigarettes an morphine. Her parents were consulted, an even at this date, one year from her firs arrest, they proved to the satisfaction of th court that Mary was still under eighteen, an all that remained of her after a year of utte debauchery was then committed to the Girls Training School, and we were asked to under take the herculean task of "reforming" her Had the authorities wired the county clerk

*Read before the Section on State Medicine and Public Hygiene State Medical Association of Texas, Fort Worth, May 9, 1923.

in the county where Mary was born and ascertained her age, she would undoubtedly have been sent to the training school at the time of her first escapade, and the task of making a good citizen of her would probably not have been unusually difficult. Some careless physician, who failed to register this girl's birth, unquestionably had a definite responsibility in her moral downfall. In any consideration of the question of vital statistics, therefore, emphasis should be laid on the fact that they are *vital*, not just *statistical*. In this case they may mean moral life or death.

The entire machinery of the juvenile court law is hinged on the one question, "How old is this child?" and the community that cannot answer stands condemned of criminal carelessness. Texas physicians are not registering more than 65 per cent of the babies born in the State. The law is unequivocal, demanding that births shall be registered within five days. Tarrant county, for example, is reported as registering slightly over 50 per cent of its births. Dallas county registers over 90 per cent. Travis county, right under the shadow of the Capitol, registers less than 50 per cent. The law provides that failure to observe this public health regulation is a misdemeanor, punishable by a fine of from $10 to $100.

Twenty-nine states are in the registration area, signifying that 90 per cent of their births are being reported. Texas really does not know with any accuracy what percentage of births is being reported, because the personnel of the State Board of Health is so influenced politically that changes are frequent, and no accurate system can be worked out with a constantly shifting staff. This matter that Texas considers so lightly, is of sufficient importance in the eyes of the nations to have caused the establishment of a special department of the League of Nations for vital statistics.

The time has passed when the public health official may concern himself only with placarding houses in which there are cases of measles, smallpox, or other quarantinable diseases, and taking cognizance of rabid dogs. According to the code of ethics adopted as far back as 1865, by the American Medical Association, "As good citizens, it is the duty of the physicians to be ever vigilant for the welfare of the community." In a recent address, Dr. W. C. Braisted, surgeon-general of the United States Navy, says, "Modern medicine is distinctly social. It is a medicine not of the sick, considered merely as individuals, but of disease affecting public morals."

Believing this to be true, it brings us to the next relationship which inevitably exists between public health and juvenile delinquency. The statistics accumulated during a seven years record taken at the Girls' Training School, show that 49 per cent of our girls are either orphans or half-orphans. Forty-nine per cent have missed the important protection so necessary to any child, of either one parent or both. These parents have nearly all died under forty. Twenty-one per cent have died from typhoid fever, tuberculosis or childbirth fever. These diseases are all definitely related to public health measures and the failure of the officials and the community along public health lines is unquestionably responsible for the delinquency that results when these children are left thus unsafeguarded.

Let me here stop to emphasize another matter of the utmost importance in any question of public health, namely, the menace of quack advertising. To cite a case in point. The mother of one of our girls is a victim of pellagra. She has been sick for eight years. These eight years cover the period of from seven to fifteen in the life of our girl—the period in which certainly a girl needs the steady and wise guidance of a mother's counsel. Instead, the mother has been the victim of a fatal disease, and for the last three years has been practically insane as a result of her pellagrous condition. When I asked this girl about the family physician, she replied frankly, "My mother treats herself. She takes a pellagra cure made by Dr. Bogan of Jasper, Alabama. This costs $10 a month." The mother has gotten steadily worse, as was to be expected, and the money that should have gone into a proper dietary has been absolutely wasted. Lacking a mother's care, subjected to the constant irritations of her mother's mental condition, the girl in question yielded to the first temptation that came her way and became delinquent, which delinquency was more or less a defense reaction, to get away from intolerable home conditions.

Dr. Richard Smith said recently, "It is our duty to the child to assure the best possible physical surroundings, to furnish proper food, to secure protection from disease and to provide every means for growth and healthy development." Granting this as almost axiomatic, we pause to wonder if the forty-nine Texas physicians who, in the last fifteen years, have stood by the bedside of the forty-nine fathers and mothers of the girls of the training school, simply packed up their useless drugs, signed a death certificate, stepped into their automobiles or buggies and drove off to the next case, unmindful of the social problems left in the homes by the death of the parents. Did the forty-nine doctors concern themselves with the livelihood that must now be

earned either by the mother leaving her children all day exposed to physical and moral dangers, or for the welfare of the children left for the helpless father to look after.

The physician has an entree into the home, a contact with social conditions that no other public servant has, and it is unquestionably his responsibility to use this privileged knowledge for the welfare of his patients and the community. He must realize that nearly every delinquent child starts out as a dependent child, and that the socially minded physician more often than any public official, could step in at the psychological moment and save the situation.

The next tremendously interesting public health problem which is indissolubly linked with delinquency is the problem of venereal disease. Forty-eight per cent of the girls admitted to the Texas State Training School for Girls within the last two years, were infected with either gonorrhea or syphilis. I do not need to stress to this group the terrific menace of syphilis, but based on the experience of a number of years, I do pause to urge that the so-called public clinics which have been organized in our county jails and city halls, be given the facilities to give adequate treatment.

At the Girls' Training School, our routine, in cases of syphilis, is that of Dr. Stokes of the Mayo Clinic, which provides for not less than eighteen injections of salvarsan with mercurial inunctions for twelve months after the lost dose of salvarsan. Inadequate treatment will give a negative Wassermann for a short time, but syphilis is not cured and the patient's health continues impaired and the public menaced.

Surely, Texas should provide a better place than the county jails for these clinics. The years between seventeen and twenty-five, have been shown to be the years of greatest incidence of venereal disease. These are also the years of possible reformation of character, especially of women who are victims of these diseases. What is the answer, then? Texas should by all means have a woman's reformatory, to which should be sent all women arrested on charges of vagrancy and found to be infected with any venereal disease.

As regards the treatment for gonorrhea, at the Girls' Training School, we have abandoned douches except in rare cases, especially those with venereal warts, and have gotten excellent results with a mercur-chrome suppository, made after the formula of Dr. Paine of the Boston Dispensary. We do not dismiss a case of gonorrhea until the patient has had three negative slides, at intervals of one month each, during which time she has been entirely off treatment.

Eleemosynary institutions are to a great extent monuments to debauchery and resulting disease. It would therefore be an economy on the part of the State to prevent disease, or leave no stone unturned to counteract its effects, rather than to continue to build institutions for the helpless victims.

The final problem that, as physicians interested in public health, we must concern ourselves about, is mental hygiene. We must realize that man is not body, neither is he mind, nor is he soul. He is all three. Charaka Susruta wrote two thousand years before Christ, in the medical section of the Vedas, the sacred book of India, "Mind, soul and body, this trinity called person, resteth or union, like three sticks standing against each other." Yet physicians have been slow to learn that all three must be taken into account if we are to arrive at personal healthfulness. How long will our public health measures be directed only toward a few physical ills, still fewer mental ills and no spiritual ills? If our difficulties as individual human beings were independent of each other, we might be justified in limiting our interests, but when, as is amply illustrated, we see bodies useless because minds are sick, minds helpless because bodies are sick, and souls hampered by both minds and bodies, we realize that the problem is absolutely inter-related.

Let us consider, briefly, juvenile delinquency as relates to our general lack of mental hygiene. We need not now go into the helpless problem of the feeble-minded other than to urge that physicians use their knowledge to make public sentiment to provide adequately for their care. Texas is taking care of less than three hundred feeble-minded children in the state colony at Austin. By a most conservative estimate Texas has at least 4,000 who need custodial care. From these hundreds of unprotected, helpless citizens, prostitutes and criminals are being daily recruited. In a recent study made in the Michigan State Health Department, of 60 prostitutes, the mental status was found to be as follows: 11 normal; 21 feeble-minded; 13 subnormal; 1 epileptic; 3 insane; 8 with paranoid tendencies, and 2 psychopathic. In Massachusetts, 50 per cent of the young girls just beginning to be prostitutes were found to be feeble-minded.

At the Texas State Training School for Girls, we have a psychological test on every individual. For the last biennium, 52 per cent were found to be feeble-minded. Given an unprotected, feeble-minded girl, with even the minimum of temptation, and almost invari-

ably a criminal results. Clara Phillips, who startled the world as a hammer murderess, is a neglected, feeble-minded woman from Texas. In years, she is grown; mentally she is only eight years of age. Such cases could be multiplied indefinitely. With our present outlook we can see very little ahead for the definitely feeble-minded, but there is a group of mental cases whose condition is full of hope, and it is to this group particularly that public health officials should direct their attention.

Figures of the Girls' Training School show that at least 14 per cent of inmates are so abnormal mentally, although neither insane or feeble-minded, that they cannot respond normally to any given routine. These psychopathic cases are the disciplinary problems of all correctional institutions. Their behavioristic manifestations are irritating to the last degree, wearing out the patience of the average worker in such institutions. They are invariably insubordinate, harbor delusions of grandeur about the consideration they think is due them, are utterly unwilling to observe rules, are markedly unappreciative of the efforts that are made to help them, and often violent and profane, and yet will have periods of normal response to environment. However, so delicately pivoted is their mental stability that the most trivial occurrence serves to unbalance them. We loosely class them as psychopathic, although unquestionably many of them are beginning cases of dementia praecox.

When it is realized that 59 per cent of the patients in the institutions in New York State, where careful statistics are kept, are cases of dementia praecox, we appreciate what a tremendous factor this one disease is in our insanity problem. Many of these cases showed early peculiarities and idiosyncrasies of temperament, emotion and mental habit, that might have forewarned an alert family physician. At least one-third of the insane are under thirty years of age. It is the unequivocal opinion of all alienists that a large percentage of these young cases could have been saved from insanity if we had the proper equipment in the way of psychopathic hospitals, for the diagnosis and treatment of such cases.

It has been estimated that when we save one patient from commitment to an insane asylum we save the state a liability of $5,659. From an economical point of view, therefore, psychopathic hospitals pay their way, but surely it should not be necessary to argue from such a point of view.

The manifestations of future insanity not infrequently begin in early childhood. Dr. Macfie Campbell, of the Boston Psychopathic Hospital, says, "It is necessary to deal with mental disorders at an early age, that is, in the school period." A noted Boston physician, in a pamphlet circulated by the National Committee on Mental Hygiene, in speaking of 456 patients exhibiting psychopathic personalities, studied in the municipal court, says "That every one of these 456 persons is a potential candidate for ultimate custodial treatment. The condition of these individuals is a progressive one. There was a time in the career of every one of these persons when early diagnosis and proper disposition and treatment could have saved much, not only in dollars and cents but in wasted human lives."

I could multiply examples of psychopathic cases at the Girls' Training School. Let me emphasize, again, that practically all of the cases requiring serious discipline, are girls who are definitely abnormal mentally. This fact will indicate the great necessity of having available facilities for psychiatric examination in such institutions. The following case will illustrate many points.

Case 1.—September, 1916, a girl whom we will call Dorothy, was committed to the Girls' Training School. She was the victim of incestuous relations, indicating that the father was abnormal mentally. Her mother was living in a house of assignation at the time of the girl's commitment, and has since been sent to the insane asylum. Dorothy has one hydrocephalic brother, of whom she says, "he don't give trouble, just sits on the porch and watches the automobiles go by. He likes to always hold a flower in his hand." The other brother is an absolute ne'er-do-well and has had a brief criminal record. His whereabouts now are unknown to his family. Dorothy was found at the training school to be exceedingly selfish and egocentric, given to fits of absolute stubbornness, which would end in violence if coercive methods were used. She had frequent fights, and harbored at all times delusions of grandeur about herself, claiming that she was better, and better looking than the other girls, and that special consideration should be shown her, in spite of the fact that she did not hesitate to use any kind of vulgar or profane language when in a tantrum. On several occasions she became suicidal. One day she threw her bed, dresser drawers and all of her clothes out of a window of the third story, and was on the window sill, poised to jump, when I caught her. However, I doubt very much whether she would have jumped from the window, as she proved herself to be an absolute coward about physical pain and did many things just for the effect of the impression that she was making on her companions. She had many good qualities. She was clean in her person, very affectionate, had an attractive face when not distorted with wrath or depression, and a great deal of artistic ability.

After her two-year stay at the school, much of which was very tempestuous, Dorothy was released to the custody of her stepfather, of whom she was exceedingly afraid because of his severity with her and her mother. She stayed with these parents in a Texas city in a wretched half-restaurant, half-dwelling, in a poor neighborhood, absolutely cowed by her stepfather. These personalities do sometimes respond to fear. However, after extreme manifesta-

tions of cruelty on the part of her stepfather, Dorothy ran away, and the following is her industrial record, which will illustrate how necessarily this type of person clogs the wheels of industry, and how helpless the individual is in our present commercial maze. She worked three days in a hosiery mill, and was discharged for insubordination; at the telephone exchange held out for two weeks, but could not stand the nerve strain of the receiver—said she could hear "number, please," all night long. For two weeks she then worked at a large mail order house, and was discharged because she refused to move a heavy box.

Through the interest of a woman who especially concerns herself about girls, Dorothy was given employment in a large department store. She stayed there about a year, during which time she was tried out in the following departments: mail, ready-to-wear, millinery, cash, marker, jewelry, notions, art, hosiery, lace, stock, boy's furnishings, and finally wrapper. Curiously enough, during all this experience, Dorothy remained absolutely moral. She met me by accident and asked to return to the training school. This she did in October, 1922. We found her but slightly changed. She was very unreasonable, had developed a decided habit of lying whenever it suited her purposes and was absolutely shameless about lying, thinking it funny to lie. Although over twenty years of age, she would fight, curse, and cry at the least provocation. She assumed very queer postures when depressed, suggesting the fetal position; was absolutely insubordinate, and still threatened suicide. She would become incoherent when upset, and would say all sorts of irrevelant things; would declare she hated everybody one minute, and then would protest extreme affection for certain people.

It can well be imagined how demoralizing such an individual is in a school for girls, where a certain amount of routine has to be observed. The only way to handle such cases is by individual attention. She should unquestionably be in a hospital for mental diseases, otherwise she will undoubtedly develop a permanent insanity that will necessitate her commitment to an insane asylum.

We cannot sufficiently emphasize that the proper treatment of the insane would unquestionably prevent a vast amount of criminality. A bill asking for the provision of a psychopathic hospital for delinquent girls as part of the system of the Girls' Training School, has been presented to the Texas Legislature. In no other way can the State meet its obvious responsibility to these young girls who are being constantly committed to the training school and yet who cannot respond to anything but a most specialized routine.

The psychopathic hospital should be equipped with occupational therapy, hydrotherapy and music therapy, a new field of science which is opening up most hopefully. The utmost attention should be given to the endocrine status of each individual. Diet, exercise and recreation should be planned according to the individual needs.

We know that the lack of mental hygiene is definitely responsible for manifestations of delinquency. The question is, therefore will we meet our responsibility by adequatel providing for this ever increasing group o those who are mentally sick.

ABSTRACT OF DISCUSSION.

Dr. J. H. Black, Dallas: For those engaged in pub lic health activities, I do not know of anything tha offers a larger field of usefulness than this particula work. There are many of these cases in which th moral and mental condition is dependent upon th physical, in which correction of the one depends upo cure of the other. Any effort an organization of thi kind may make to forward the movement to properl care for these unfortunates, will do much to facilitat public health work in Texas.

THE CHURCH AND SCHOOL AS EDUCA TIONAL FACTORS FOR PREVENTIVE MEDICINE.*

BY

J. W. TORBETT, B. S., M. D.,
MARLIN, TEXAS.

The first question is, why should the knowl edge of preventive medicine be more widel disseminated? Because it has been estimate that one-third of all deaths could be prevente if we only practiced what is known. All case of dengue last fall could have been prevented All cases of typhoid, entailing an estimate economic loss of $350,000,000,000 annually the 3,000,000 cases of malaria, the 5,000,00 cases of tuberculosis, most of which wil terminate fatally, besides many thousands o venereal and other preventable diseases, cost ing us annually enough to build seven Panam Canals, could have been prevented if th people would only practice what preventiv medicine teaches.

About one in every four men examined fo military service in the late war, was phys ically unfit. Dr. Peterson and Mr. F. A Manny, both recently stated that one-third o all school children in the United States nov are undernourished—a sad commentary o our efforts to teach preventive medicine Every public health nurse who has examine the school children of Texas cities, know what a large percentage have bad teeth, in fected tonsils, adenoids and are undernour ished, and that at an age when a permanen weakness may be so easily laid for chronic incurable invalidism. An excess of sugar o candy, an unbalanced ration, a ration de ficient in vitamines, with irregular habits giving lowered resistance, and malnutrition are great factors, according to Mr. E. E. Rit tenhouse and Dr. J. H. Kellogg, in the increase death rate during the past thirty years, fron such degenerative diseases as Bright's, high blood pressure, diabetes and cancer. Th same is thought to be true of such alimentary

*Read before the Section on State Medicine and Public Hygiene State Medical Association of Texas, Fort Worth, May 9, 1923.

iseases as gastric and duodenal ulcers and ppendicitis.

Dr. Robert McCarrison of London, said in *'he Journal of the A. M. A.*, January 7, 1922, hat he did an average of four hundred opera- ions annually for nine years, on a race of eople in the Himalaya Mountains, and no ases of cancer, gastric or duodenal ulcer, hronic colitis or appendicitis, were ever ound. They never used meats, sweets or lcohol. Since the church has recognized that nore than 75 per cent of Christ's miracles vere miracles of healing, and that the people nust receive social and physical assistance as vell as spiritual comfort from the church as Christ taught and did, they are founding hos- itals everywhere. Each hospital should have research department, and the latest and est ideas of preventive medicine should be iven the people by the church through its ninisters or physicians at stated times each ear. In 1914 statistics showed that one per- on in every two hundred and eighty-three in he state of New York, was in an insane sylum. Our own asylums are overcrowded nd taxes for their support are burdensome. What can we do to remove the causes of a roup of diseases that will finally extinguish he race unless checked? The lesson taught y the well known Jukes and Jonathan Ed- vards families, is sufficient to convince any- ne that the criminal and the mentally and ertain of the physically defective, should not opulate the earth. Every public school eacher knows the freaks, epileptics, dullards nd chronic invalids of school, and though hey must be improved in every way possible, hey should be taught early and constantly he dire consequences that may be trans- nitted to their children.

The Hon. Harry Olson, chief justice of the nunicipal court of Chicago, said in the *Eugenical News* of December, 1922, that most f the fundamental crimes, such as robbery, urglary, rape and murder, were committed y persons suffering from dementia praecox, type of adolescent insanity, as determined y the psychopathic laboratory of that court. he laws of punishment do not get back to the ause of such cases. Their records show that f 779 cases in the boys' court, 84 per cent vere suffering from dementia praecox, 13 er cent from psychopathic constitutions, and ess than 1 per cent from epilepsy. In the noral court, out of 464 cases of females, 36 er cent were dementia praecox and 19 per ent psychopathic constitution. Psychopathic ourts in other cities are disclosing to the ublic that hereditary mental defects are at he bottom of crime and poverty.

Burbank's marvelous improvement in the fruit and flower kingdom, are illuminating examples, as also are the improvements in the domestic animals about us. We have been dealing with effects. We must go back to cause if we would prevent poverty, crime and mental and physical defectives. The kindergarten is the place to begin. The school cafeteria, so generously supported by some of our progressive schools, could and should be made wonderful educational factors, to teach what is known of modern nutrition in building happy and healthy children. If proper medical supervision over them in groups is exercised, and careful records kept, much new information on dietetics and nutrition, and beginning endocrine dysharmonies of great benefit to the race will be discovered within the next few years. The present widespread undernourishment among school children plainly shows wrong habits and improper diet that should be studied and corrected. Praising and rewarding those who improve and live right, is a much better corrective method than denouncing those who do not.

I do not desire to be an alarmist, but facts must be faced. If our children's children are to inherit this American Republic, governed by a free-born people, better in mental, moral, spiritual and physical equipment than we are today, we must heed the lessons of eugenics and dietetics, and stop the downward degenerative tendencies of our times by utilizing the church and our schools, the press and the picture shows, for teaching the truth of health, heredity and the basic principles of the Christian religion to coming generations.

HYGIENE AND PREVENTIVE MEDICINE IN THE PUBLIC SCHOOLS.*

BY

T. O. WOOLLEY, M. D.,

Supervisor of Hygienics, Houston Public Schools,

HOUSTON, TEXAS.

Conservation of men and women must begin with the conservation of the child, and it is evident that what we would have appear in the life of our people, we must put into the schools. The proper care and supervision of the health of school children is preventive medicine in the highest sense of the term, and preventive medicine is the best and cheapest health insurance a community can purchase. No progress can be made in preventive medicine without education. The public school should be the center for enlightenment of the whole population, especially where there is such an heterogeneous population as that of the cities. The parents of the present school

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generation learn many truths from their offspring, and certainly among these are the lessons of hygiene and sanitation. Generally, the hygienic rules coming from the schools and brought home by the children, have a considerable influence upon the present home life, not to speak of the home life of the future men and women. The public schools could be of greater service in the work of general enlightenment in health questions, and could have a larger share in the physical improvement of the population of the community and state. I offer this as an excuse for the reading of this paper.

Lack of careful administration and supervision, lack of definite standards and lack of specific absorption, in the solution of school health problems, is doing much to defeat the movement which should have so much to do with improving school and state health. The health problems will be solved by full time workers, who are specialists in their line. The work must be in the hands of boards of education, for public health is essentially educational. The supervisor of hygiene should work hand in hand with the health departments of the state, county and municipality, but the health work in the schools is broader and more far reaching than the mere controlling of infectious diseases and the practice of curative medicine. It is educational and sociological. The goal of hygienics in the schools is economy, efficiency and vitality, and an increase in the potential power of the community and state.

The personnel of the hygienics department of the public school system of Houston (Texas) is composed of a hygienic committee, a physician and two members of the board of education; the supervisor of hygienics, a physician employed, whole time, by the board of education, and ten graduate nurses, employed jointly by the board of education and the social service bureau.

The duties of this department are as follows:

1.—To prevent infectious and contagious diseases, (a) by refusing admission to pupils suffering from infectious and contagious diseases; (b) by finding and excluding infectious and contagious cases; (c) by immunization, and (d) by sanitation.

2.—Examination of children for physical defects, and the correction of defects discovered.

3.—Dietetics.

This plan follows very closely the plan outlined by McCord, at the Fourth International Congress on School Hygiene, which convened at Buffalo in 1913. The plan and directions for its execution are simple; but the details are multiple, and often lead to "grief," as any one will know who has attempted to enforce rules and regulations, or health laws.

The routine work begins the first day of school. Pupils are inspected for communicable diseases as rapidly as possible. This is known in the schools as the preliminary examination. The examinations are made by the nurses, and suspected cases are excluded by the principal of the school and referred to the supervisor of hygienics. Upon completion of this examination, each grade school is visited by the nurse twice each week. The high schools receive no special attention from the hygienics department. Twice each school year the child is subjected to a physical inspection by the nurse and a record made of any defect of vision, teeth, tonsils, weight, or height, and whether or not it is poorly nourished, or there are deformities or enlarged glands, or a scar of successful vaccination. If defects are found, they are listed on blank forms, which are sent to the parents, with the request that the pupil be taken to the office of the supervisor of hygienics for further examination. In this case the duties of the office of supervisor are those of a clearing house. A diagnosis is made and the child referred to the family physician, to a specialist of their choice, or to the city clinic. We have no school clinic, except a dental clinic in one grade school.

When a pupil is excluded from school he must have an official permit to return to school, and if he has no scar of successful vaccination, he must be vaccinated and have the certificate countersigned by the supervisor of hygienics. The reasons for this are many. It gives the board of education complete control of the situation. The school are protected against the unscrupulous and against the working of the various cults that are not recognized by the state, that might be tolerated by teachers or principals.

Sanitation of school buildings, lunch rooms and premises, is also supervised by the hygienics department. Some such authority should be recognized in the construction of school buildings. This has not been done in the past in Houston, and there are some gross hygienic and sanitary defects in some of the school buildings. Efficient sanitation in the schools requires cordial co-operation between teachers, nurses and supervisors.

Hot shower baths have been installed in two school buildings in parts of the city largely populated by foreigners. This reminds me of a story told by an educator in Illinois. A philanthropic society in a certain town sent a trainload of boys, who were not able to get an outing in any other way to the lake every summer, and upon arriva

ne day, the boys hurried to the lake and the rofessor overheard this conversation be- ween two boys, as they removed their cloth- ng. "Gee, Jim, you sure are dirty." "Yeah, missed the train last year." We main- ain showers at these schools for those ho "missed the train." These showers are ept open three afternoons and evenings per eek by the social service bureau, and the upils and parent in the communities that ave no facilities at home for bathing, are rged to take advantage of these showers. uring the last year, 10,332 baths were given.

The teaching of health in the schools should e one of the chief duties of the hygienics de- artment, and it receives the least attention t present. There is no organized instruction n this department. There are occasional lec- ures by the supervisor and the nurses. Iealth pictures are obtained from the exten- ion department of the University and the tate Health Department, and are occasion- lly exhibited in the schools.

We hope to have a supervisor of physical ducation in the near future, and an attempt ill be made to form a board composed of the hairman of the hygienics committee of the oard of education, the superintendent, the upervisor of home economics, the supervisor f physical education and the supervisor of ygienics, that will form a co-ordinated plan f health instruction by teaching dietetics, orrective exercise, immunization, sanitation, tc. Here we might use the same teacher dvantageously in the three departments.

The serving of lunches to school children as become a tremendous business in Hous- on. There are forty lunch rooms serving ,640 lunches at $1,296.00 per day, and the ood ranges in quality from the best of sweet ilk to "hot dogs." The lunch rooms are nder the supervision of the Mothers' Club, r local Parent-Teacher Associations, and the ygienics department has no supervision xcept as to sanitation. This year, upon the ecommendation of the hygienics department, he board of education has initiated a school or lunch room manager, and attendance upon hese classes is made compulsory. These lasses are taught by a practical lunch room anager, who is a graduate of the state in- ustrial school. She is paid under the Smith- Iughes act. It is my opinion that the lunch oom situation would be much benefitted by director of lunch rooms, employed by the oard of education. That would forestall the ifferent clubs making a profit on lunches n order to buy athletic equipment and moving icture machines, or attempting to take it out f the child's "tummy" and put it into his ead. But we must keep in mind the fact that serving lunches in the schools is a comparatively new practice. The undesirable features will doubtless be eliminated in the near future.

For the year ending March 1, 1923, there were 3,987 vaccinations against smallpox. Of this number, 2,476 were successful; 114 unsuccessful, and 1,397 have not been inspected.

There were 1,323 cases of contagious and infectious diseases excluded from school until free from disease. Of these, 901 were the ordinary diseases of childhood, such as chicken pox, measles, etc. The remaining 422 cases were as follows: diphtheria, 85; scarlet fever, 15; scabies, 265; ring worm, 57.

It is easy for us to imagine a picture of the almost disastrous results if these cases had been allowed to go unrestrained among 30,000 school children.

Physical inspection of 21,139 school children disclosed 9,954 defects, of which 3,890 were corrected. There were 4,569 defective tonsils and adenoids, with 1,071 corrections; 252 cases of defective vision and diseases of the eye, with 131 corrections, and 3,530 cases of defective teeth, with 906 corrections. The dental clinic in one of the grade schools was responsible for 300 of these corrections.

There were 2,329 cases of malnutrition (under weights), of which 118 were brought up to the average weight. Many of the others were improved between the first and second weighings. This was accomplished by the removal of defects and the institution of special diet.

These statistics are submitted to show that we have made progress toward our goal—economy, efficiency and vitality, and an increase in the potential power of the community and the state.

ABSTRACT OF DISCUSSION.

Dr. A. H. Flickwir, Houston: Dr. Woolley has been a very busy man for the last two years, and we can see from his report that he has done a great deal of work. Houston has been benefitted by his work in the schools. When I read my paper this morning and stated that I thought that all public health work should come under the Health Department, I did not refer to Dr. Woolley, because he is a part of the school system, and reports to the Health Department. The doctor is a full-time man, and his results are most excellent. He is helping to account for the low death rate in Houston.

Dr. A. S. Garrett, Weatherford: It occurs to me that there is a condition, habit or disease, that exists among children of the public schools that, so far as I know, has not been prohibited—neither have school boards taken any special action touching the matter. The disease, if it may be called a disease, is in a sense both infectious and contagious. I refer to the smoking of cigarettes. Their use is injurious to children, physically, mentally and morally. Children who smoke cigarettes not only injure themselves but by their influence causes others to form the

habit. I believe that cigarette smokers, unless they have the consent of their parents or guardians, together with a statement from the health officer or the family physician that smoking is beneficial to their health, should be barred from the public schools under the ages of fourteen or sixteen years.

Dr. Woolley, (closing): There are a few things I would like to say about about the finding of carriers of diphtheria. We have found some twenty-five or thirty of them among school children. When we find a case of diphtheria in a school room, we make cultures from the throats and noses of the children in that room and exclude all the carriers we find. They are quarantined by the health department. Isolation of the milder diseases of childhood, such as chickenpox, mumps and measles, I must say from experience, would be of marked benefit to the schools. We exclude the child from school, and he is sent home; but he is not sick, and most of them visit the picture shows, play baseball and scatter the disease promiscuously. It is like putting the cows out of the corn field and leaving the back fence down: It is my opinion that the health department should be given authority to isolate these cases of contagion. We do not exclude the contacts in the milder diseases. For instance, if a child has the measles at home and has brothers and sisters going to school, we do not exclude the other children, but inspect them daily to see that they do not come to school with the disease.

Another word about correcting defects. It seems to me that is one of the most important jobs of the government. A few years ago the government instituted a draft for troops, and registered all men from 18 to 45 years of age. These were given physical examinations, and from 20 to 30 per cent were not able to bear arms in defense of their country. That is an indictment of government. It has been stated by those who should know, that 10 or may be 15 per cent of the defectives could have been made able to bear arms had the defects, or the causes of the defects, been corrected in childhood. If we could make physically fit men of this 10 per cent, by starting early, it certainly would be worth the price. It seems to me that one of the greatest things being done by the hygiene department in the schools, is the remedying or removing of defects early in life, that the afflicted may be able to fight the battles of men, either in war or in peace.

MISCELLANEOUS

A CASE OF UTERO-RECTAL FISTULA.

THE EDITOR: Literature shows comparatively few cases of utero-rectal fistula. I am presuming, therefore, that the following case, even so briefly reported, will be of interest.

The patient was fifty-five years of age, a housewife by occupation, with a negative family history. At the age of twenty-five, there had been an incomplete abortion, followed by a curettement. There was a prolonged convalescence, and from that time until the menopause had been reached, at the age of forty-five, menstruation was both by vagina and rectum.

The patient entered the sanitarium April 8, 1922, seeking relief of a dull, aching pain, low down in the rectum. Examination disclosed a tender mass in the hollow of the sacrum. The temperature was 100° F. and the pulse was 90. There was a leukocytosis, the count being 10,000. Other laboratory findings were inconsequential.

At operation, the uterus was found adherent to the rectum and there was an abscess in the fundus, which had been discharging into the rectum through a fistula. Evidently, this tract had existed for a long time and the acute exacerbations were due to its occlusion. The uterus, abscess and tract were removed. The patient, after a prolonged convalescence finally regained fully her strength and health. She is today forty pounds heavier than she was just before the operation and is feeling good.

Fraternally,

J. T. KRUEGER, Lubbock, Texas.

NOTICE.

We are reliably informed that a man is victimizing Texas physicians by obtaining money from them upon worthless checks. He claims to be suffering from renal calculi; weighs about 160 pounds; is about 5 feet 9 or 10 inches tall; well dressed; of fair complexion; has two tattoo marks on left arm and forearm; claims to be traveling for a Texas oil concern; claims to be paymaster for an oil company; says he travels over eighteen states; claims that a well known Dallas man formerly connected with the U. S. Veterans' Bureau of Dallas is his father, and that the owner of a Dallas sanitorium is his brother; claims to have been a patient of the Mayo Clinics; does not expressly state that he is a physician, but evidences such knowledge as only a physician, or exceedingly well informed layman, would have about medical matters; may be a narcotic addict; and likely operates under various names, and by means of various schemes.

Look out for him.

FALL EXAMINATIONS STATE BOARD OF MEDICAL EXAMINERS.

The fall examinations of the State Board of Medical Examiners were held in Dallas, November 20-21-22, as scheduled. The following information including the list of questions propounded, has been furnished by the Secretary of the Board, Dr. T. J. Crowe:

"There were 21 examinees in the November class of whom 13 were Juniors from the Baylor Medical College. The 8 graduates represented eight colleges as follows: Tulane University, Texas University, University of Pennsylvania, Rush Medical College, University of Munich, Kumamato Medical College Japan; Government Medical College, Okayama Japan; Estada University, Mexico. The graduates made a general average of 88.4 per cent, and the Juniors 88 per cent. There was not a single failure in either class.

"The year 1923 registered 75 physicians by examination and 91 through reciprocity. Of the licentiates by endorsement, 7 were osteopaths. The registrations for 1923 were about one-third of the number registered in 1920."

The questions propounded were as follows:

ANATOMY.—Dr. Norwood.

1. Describe the inferior maxillary bone.
2. Describe the tibia, give the points of ossification; with what bones does it articulate?
3. Describe the spinal column, giving characteristics of vertebrae in each section, or division.
4. Describe the bony relationships and landmarks of the elbow joints.
5. Define and give an example of synarthrosis and of diarthrosis.
6. Give a description of the crucial ligaments and ligamentum teres.
7. Name the ganglia connected with the fifth pair of cranial nerves.
8. Describe the gall bladder and bile ducts.
9. Name and give the location of the principal glands found in the small intestine.
10. Name the openings of the heart.

PHYSIOLOGY.—Dr. Sandefer.

1. Follow a particle of fat through the process of its digestion and assimilation, and tell what becomes of it in the body.
2. What are the functions of the spleen, pancreas and the thyroid gland?
3. Name the substances that are necessary for the formation of fibrin in a blood clot; and state from what substances they are derived.
4. From what do new tissue cells originate in the process of repair?
5. How is heat produced in the body; and how is it given off?
6. Give in detail the function of the kidneys.
7. What is the vasomotor system, and how does it influence the blood supply of the body?
8. What sometimes happens when the thyroid gland is removed?
9. How is the acidity of the stomach maintained?
10. Name the organs of the portal system and state what enzymes are derived from it.

CHEMISTRY —Dr. Grogan.

1. Give the chemical difference between the blood in the pulmonary artery and in the pulmonary vein.
2. Select the five most important reagents for a urinalysis outfit, and state why you select them.
3. Give the names and formulas of the various gaseous compounds capable of producing general anesthesia.
4. Name five alkaloids, giving the derivation of each.
5. Name the chemical antidotes for poisoning with (a) mineral acids, (b) caustic alkalies.
6. Define isotonic, hypoisotonic, and hyperisotonic solutions. Give an example of an isotonic solution.
7. What are the properties and uses of glucose? State the importance of glucose in medical chemistry.
8. What organs secrete ptyalin, (b) what action has it upon starches.
9. Name (a) the chlorides found in the urine, (b) state their clinical significance, and (c) give a test for their detection.
10. What is the quantity of free hydrochloric acid contained in normal gastric juice? What term is employed to represent this condition?

HISTOLOGY.—Dr. Bailey.

1. Name the varieties of cartilage and describe them.
2. Name the varieties of muscle; describe the structure of smooth muscle and say how its fibers are held together.
3. What are nerves; what is a neuron? Describe a nerve cell.
4. Name the coats of an artery, and describe them. How do the veins differ from the arteries?
5. What structures compose the heart? Describe each of the structures.
6. Give the histological structure of the ovary.
7. Give a histological description of the testicle.
8. Describe the histological structure of the liver.
9. Give the histology of bone.
10. Describe the histological structure of mucous membrane.

BACTERIOLOGY.—Dr. Grogan.

1. Describe in detail an examination of the sputum for tubercle bacilli.
2. Mention four diseases of protozoan origin and give a short description of the causal organisms.
3. Discuss serum sickness.
4. What is the effect of temperature upon the growth and destruction of bacteria?
5. What disease conditions are excited by gonococci?
6. How would you identify gonococci?
7. Describe mycetoma.
8. Describe in detail how you examine spinal fluid for meningococci, morphologically and culturally.
9. Define the following terms: chemotaxis, strict parasite, saphrophyte, opsonins, agglutinin, antiseptic and disinfectant.
10. What is immunity? How is it produced?

PATHOLOGY.—Dr. Bailey.

1. Give the process of inflammation and its most common termination.
2. Describe chronic gastritis and give its pathology.
3. Give the pathology and morbid anatomy of croupous pneumonia.
4. Describe the varieties of tubercle and the pathology of tuberculosis.
5. Give the pathology of small-pox, its period of incubation and of infection.
6. What is a fatty tumor? Describe its process of formation.
7. What is a sarcomatous tumor? Give its pathology.
8. Define spastic spinal paralysis.
9. Give conditions of the blood in progressive pernicious anemia.
10. Has typhoid fever a constant pathological lesion? If so, when does it begin and when does it disappear?

HYGIENE.—Dr. Morrow.

1. Describe the purification of water in a municipal plant where the supply is derived from a river.
2. Given an outbreak of diphtheria in a limited area in a city, how would you determine the source of its origin and how would you stamp it out?
3. Name three germicides and three insecticides?
4. Give the classifications of foods. Make up a menu to include the essential elements for the nourishment of the human body.
5. What in general is the source of nitrates and what of nitrites?
6. What are the most frequent defects of vision of school children, and how would you correct them?
7. How may you detect botulism poison in foods? What foods are most likely to cause such poisoning?
8. Describe the purification and utilization of sewage.
9. What do you understand by the terms inspection and utilization of sewage?
10. Name the methods by which air is vitiated.

SURGERY.—Dr. Moore.

1. Define (a) an abscess, (b) an ulcer, (c) a sinus, and (d) a fistula.
2. Give in full the surgical treatment for varicose ulcer of the leg.
3. Give the surgical treatment for symptomatic embolic gangrene of the foot.
4. Describe the complete surgical care of fracture of the clavicle in an adult.
5. Give in detail your treatment for cancer of the lower lip.
6. Give the treatment for whitlow, or bone felon of the little finger.
7. Describe in detail the ligature of the brachial artery in the middle of the arm.
8. Give in detail your method of handling a case of stab wound in the axilla. What precautions would you take?
9. How would you handle a case of chronic synovitis of the knee joint? Give details.
10. Give in detail a standard operation for colostomy.

GYNECOLOGY.—Dr. Crosthwait.

1. Describe a case in which you would recommend abdominal panhysterectomy.

2. What would be your plan of procedure in a case of bleeding fibroid uterus with hemoglobin below forty per cent?
3. Why is a femoral hernia more common in women? State the differential diagnosis.
4. Differentiate between an operable and an inoperable carcinoma of the cervix.
5. Give the indications for ventral fixation and state what immediate and remote complications may follow the operation.
6. What are the causes of hemorrhage from the nonpregnant uterus.
7. Briefly discuss the cervix uteri as a focal point of infection.
8. Describe vesico-vaginal fistula, state its most common cause.
9. What is the differential diagnosis between large ovarian cyst and ascites?
10. Describe in detail the preoperative preparation of a patient for an abdominal panhysterectomy.

OBSTETRICS.—Dr. Watkins.

1. What is the normal temperature of a child at birth, and what influence may the birth of the child have on the thermal influence of the mother?
2. Why does the fundus of the uterus descend during the latter days of pregnancy?
3. How would you manage a case of uterine inertia?
4. Under what conditions or condition would you advise episiotomy, if at all, and state the technique and management of same.
5. At what month of gestation is the foetal circulation complete?
6. Upon which side should the child be placed immediately after birth, and say why this precaution should be taken in behalf of the child.
7. Give the mechanism of labor in the L. O. A. position.
8. Differentiate between sapremia and septicemia, and give the management of a case of each.
9. What is the earliest positive test by which to determine the existence of pregnancy?
10. Define puerperal eclampsia and state how you would manage a case of postpartum and of antepartum eclampsia.

PHYSICAL DIAGNOSIS.—Dr. Mayo.

1. Give differential diagnosis between gastric ulcer and hepatic colic.
2. What conditions predispose to cerebral hemorrhage?
3. What cutaneous diseases may occur as complications of diabetes mellitus?
4. Give the clinical features of exophthalmic goiter.
5. State the value of an ordinary leucocyte count in differential diagnosis.
6. What are the symptoms and characteristic findings in diabetic coma?
7. Differentiate pulmonary from gastric hemorrhage.
8. How would you diagnose pneumonia?
9. Describe the symptoms of dengue fever.
10. When is perforation in typhoid fever most likely to occur; give reasons.

MEDICAL JURISPRUDENCE.—Dr. Daniel.

1. What is meant by adipocere, and under what conditions is it produced?
2. Give the diagnosis of a case of strychnia poisoning and say how you would manage such a case.
3. In case of death during a surgical operation, how would you determine whether death was due to shock, to the anesthetic or to hemorrhage?
4. Name the eight classifications of insanity.
5. What symptoms would to your mind indicate the need of restraint in the insane. Give in detail the post-mortem appearance of the brain and spinal cord in insanity.
6. How would you determine whether a man had been shot from the front or from behind? In what respect do gunshot wounds differ from other wounds?
7. Discuss the Bertillion system of identification.
8. Define justifiable, criminal and feigned abortion.
9. What is a fracture? How may fractures cause death? Differentiate fracture produced on the living from fracture produced on a dead body.
10. What is a wound? Give the classification of wounds. Differentiate suicidal and homicidal incised wounds of the neck.

THE GROWING IMPORTANCE OF PREVENTIVE MEDICINE TO THE GENERAL PRACTITIONER.

If the medical profession is to retain in the highest possible degree the confidence of the general public, John M. Dodson, Chicago (*Journal A. M. A.*, Oct. 27, 1923), says it must recognize changing conditions and alter its methods of practice accordingly. In doing this the profession must constantly seek to meet the real needs and serve the best interests of the public. Unquestionably, the greatest possibilities of usefulness of the physician to the public lie in the field of preventive medicine. The family physician who seeks to render to his patients the service which will do them the most good is bound to enter the field of preventive medicine: to become, in other words, the family health adviser as well as the family physician. The idea that seems to be entertained by some physicians that the physician is the only man who is competent or has the right to discuss matters of health, Dodson says, is wholly erroneous. He is better qualified to assume leadership in many phases of this movement, but it is the height of folly for him to decline to co-operate cordially and continuously with several other agencies that are working in this field. It is his right to insist that the activities of each of these groups of workers be confined to the domain for which their training has fitted them. Physicians must equip themselves far better than they have been heretofore equipped to give instruction to the public concerning community and especially individual hygiene. They must cooperate cordially and effectively with the duly appointed health officers, not only in complying with the legal requirements as to the reporting of births, deaths, cases of communicable disease, and the like, but in the matter of arousing the citizens of the community to the importance and great possibilities of preventive measures. Training of the family physician for such work can be accomplished only by a considerable amount of carefully planned, systematic, effective instruction along the lines of preventive medicine. We need extensive provision for continuation courses conducted by state or local health officers at convenient points and for such periods of time as will make it possible for the family physician to attend them without unreasonable interference with his practice. One thing is certain—the health officers, community, state and federal—are hopelessly handicapped unless they have the cordial, constant, sympathetic and intelligent co-operation of the physicians of that community. For the coming generation of medical men, that is, the medical student of today, the plan of education must be modified to stress the preventive side of medicine much more than it has ever been stressed. The practioner of medicine must have a reasonably broad, comprehensive knowledge of medicine; first, of the fundamental science on which the practice of medicine is based, and then of the clinical applications of these

sciences. The foundations to be laid in these sciences are essentially the same for preventive as for curative medicine. Somewhat more emphasis should be laid on those facts and methods of bacteriology and hygiene which have to do with prevention; but the important change that is needed is a change in attitude of the clinical teacher. The medical faculty and especially the clinical teachers of every medical school should come to realize that the medicine of the future is to be in large part preventive medicine, and it is their duty to prepare their students for service along these lines.

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES.

Butesin.—n-butyl-para-aminobenzoate. Butesin is the normal butyl ester of 4-aminobenzoic acid. The actions and uses of butesin are similar to those of benzocaine (anesthesin), which is the ethyl ester of 4-aminobenzoic acid (see New and Nonofficial Remedies, 1923, p. 41, Anesthetics, Local, Difficultly Soluble). Butesin is used as a dusting powder, either pure or diluted. It may be used in the form of troches, ointment, suppositories, or dissolved in a fatty oil. Butesin is a white, crystalline powder, odorless, tasteless, almost insoluble in water, but soluble in alcohol, chloroform, ether and in fatty oils. The Abbott Laboratories, Chicago.—*Jour. A. M. A*, November 3, 1923.

Diphtheria Antitoxin Globulin.—This product (see New and Nonofficial Remedies, 1923, p. 283) is also marketed in syringes containing 20,000 units. Cutter Laboratory, Berkeley, California.

Glycerinated Vaccine Virus.—This product (see New and Nonofficial Remedies, 1923, p. 293) is also marketed in packages containing one capillary tube. Cutter Laboratory, Berkeley, California.

Gonococcic Vaccine.—A gonococcic vaccine (see New and Nonofficial Remedies, 1923, p. 304), marketed in vials of 5 c.c. and 20 c.c., each cubic centimeter containing 500 million cocci. Cutter Laboratory, Berkeley, California.—*Jour. A. M. A*, November 17, 1923.

Afenil.—Calcium chloride urea. A molecular compound of calcium chloride and urea. Afenil has the actions of calcium chloride. It is claimed that when afenil solutions are administered intramuscularly or intravenously, the drug is better tolerated and less irritating than calcium chloride. It is claimed that the intravenous administration of afenil is indicated in hay fever, asthma and other diseases of the respiratory tract in anaphalactic conditions, skin rashes, urticarias and as a means of preventing severe arsphenamine reactions. Afenil is marketed in ampules containing 10 c.c. of a 10 per cent solution of afenil. E. Bilhuber, Inc., New York.

Silver Nitrate Solution in Capsules-P. D. & Co.—An aqueous solution of silver nitrate contained in capsules composed of beeswax with an inner lining of a hard paraffin. The solution is intended for the prophylaxis of ophthalmia neonatorium in the newborn. The solution is marketed in two forms—capsules containing 6 minims of a 1 per cent solution, capsules containing 6 minims of a 2 per cent solution. Parke, Davis & Co., Detroit.—*Jour. A. M. A.*, November 24, 1923.

PROPAGANDA FOR REFORM.

The Menace of "Moonshine" Whiskey.—The untoward results of overindulgence in whiskey have usually been ascribed to its alcoholic content, although now and then ill defined "by-products" of fermentation present in the distillate have been charged with a toxicity out of all proportion to the quantities ordinarily present. The indefinite "fusel oil" and furfurol were often designated as the pernicious ingredients. In properly made and suitably aged whiskies, such constituents could at most play only a minor part in the intoxication produced. While alcoholism is less prevalent today than it was a few years ago, its attendant and after effects on its victims are more serious. The impression is broadcast that this is due to the "moonshine" liquor which is being distributed. The danger from the presence of methyl alcohol in "moonshine" whiskey is well known. Its presence is explained by the use of denatured alcohol (which may contain methyl alcohol) in the preparation of "moonshine" whiskey. However, the investigations of the federal authorities indicate that ordinarily methyl alcohol is not the pernicious constituent of illicit whiskey, but instead the product has been found often to contain a high proportion of acetaldehyd. The "ranker" the liquor, the higher the aldehyd content.—*Jour. A. M. A.*, November 10, 1923.

The Composition of Some Complexion Clays.—Next to nostrums sold for the alleged rejuvenation of the male, the most popular form of contemporary charlatanry lies in the exploitation of alleged beautifiers for the female. During the last year or two the cosmetic market has been glutted with a veritable avalanche of so-called complexion clays and face packs. The A. M. A. Chemical Laboratory has analysed the following preparations of this class: "Terra-derma-lax," "Boncilla," "Domino Complexion Clay," "Mineralava," "Ryerson's Forty Minute Beauty Clay." The laboratory reports that each of the preparations was a bluish mass of the consistency of soft putty and resembled a mixture of clay and water. With one exception, no substance other than clay, water and perfume was found in the preparations. Domino Complexion Clay contained about five per cent of glycerin and about 0.2 per cent of a salicylate, probably sodium salicylate. The examination indicates that the clays analysed are not high grade products, nor carefully purified before being used.—*Jour. A. M. A.*, November 10, 1923.

Pregl's Solution.—It has been stated that Pregl's (isotonic) iodin solution is probably prepared by treating a solution of sodium carbonate with finely powdered iodin. When the iodin has dissolved, sodium chlorid is added and the solution diluted to a definite volume. The product is stated to contain sodium ions, free iodin, iodid ions, hypoiodite and iodate ions—this in addition to the carbonate and chlorid. A proprietary brand of this solution is sold in Germany as "Presoiod." All favorable reports of the therapeutic use of Pregl's solution have had their genesis from apparently biased sources.—*Jour. A. M. A.*, November 10, 1923.

Iridinol.—The Council on Pharmacy and Chemistry reports that about fifteen years ago "Iridium (Medicinal)" was put on the market by the Platinum Co. of America, and the same company manufactured "Iridinol," which was marketed by the P. H. Potter Chemical Co. (now P. H. Potter & Sons, Inc.), New York. Both products were, at that time, claimed to contain iridium and were marketed for a high price with grossly misleading claims for the efficacy of iridium as a therapeutic agent. Iridium (Medicinal) seems to have been abandoned, but Iridinol, advertised by P. H. Potter & Sons, Inc., as an "ethical preparation" continues to be sold. In the earliest advertising Iridinol was claimed to be a "nontoxic preparation of iridium." At that time the A. M. A. Chemical Laboratory was unable to detect the presence of iridium, and it was concluded that no very large amounts of iridium could have been present. Regardless of the presence or absence of

iridium, there is not the slightest evidence for the therapeutic value of this metal in the conditions for which it is recommended by the exploiters of Iridinol. In the present advertising for Iridinol no definite claim is made for the presence of iridium. Instead the agents merely imply its presence. Iridinol is recommended by the exploiters in anemia, rheumatism, specific blood diseases, diseases of the nose and throat, of stomach organs, liver and kidneys, of the nervous system, diseases of children and as a systemic alterative. In view of the long-continued activities of P. H. Potter & Sons, Inc., for the use of Iridinol, the Council authorized publication of a report for the information of physicians who may be importuned to use it.—*Jour. A. M. A.*, November 24, 1923.

Whooping Cough Vaccine.—In a series of articles on biologic therapy prepared under the auspices of the Council on Pharmacy and Chemistry, W. C. Davison (*The Journal*, January 22, 1921), concluded a review of the use of pertussis bacillus vaccine thus: "In summing up the prolific and somewhat contradictory literature on this subject, it may be concluded that injections of Bordet-Gengou bacillus vaccines may have a slight though unreliable prophylactic effect, and that therapeutic inoculations are of practically no value. Further experiments are necessary to raise this procedure from the limbo of non-specific therapy." The Council on Pharmacy and Chemistry has accepted pertussis bacillus vaccine for New and Nonofficial Remedies, but states in regard to the usefulness of the product: "The evidence indicating that it is of value for either prevention or treatment is very questionable, and the reports are conflicting."—*Jour. A. M. A* , November 24, 1923.

NEWS

The Quanah Sanitarium was damaged by fire recently. This institution is owned by Drs. J. J. Hanna and R. R. McDaniel. The damage was fully covered by insurance and has been repaired.

The Volstead Act.—Senator Edge is sponsor of a bill which he introduced, Dec. 19, 1923, to amend the Volstead act which would restore to physicians the right to prescribe alcohol in the practice of their profession as they see fit. Two federal judges have already declared that section of the act unconstitutional which circumscribes the judgment of the physician in practicing his profession.—*Jour. A. M. A.*

Southern Surgical Election.—At the recent meeting of the Southern Surgical Association, at White Sulphur Springs, W. Va., the following officers were elected: President, Dr. Le Grand Guerry, Columbia, S. C.; vice-presidents, Drs. James M. Mason, Birmingham. Ala., and John T. Moore, Houston, Texas; secretary, Dr. Hubert A. Royster, Raleigh, N. C., and treasurer, Dr. Urban Maes, New Orleans. The next meeting will be held at Charleston, S. C., Dec. 9-10-11, 1924.—*Jour. A. M. A.*, Dec. 22, 1923.

The American Congress on Internal Medicine will hold its eighth annual clinical session in the amphitheatres, wards and laboratories of the various institutions concerned with medical teaching, at St. Louis, Mo., beginning Monday, February 18, 1924. Practitioners and laboratory workers interested in the progress of scientific, clinical and research medicine are invited to take advantage of the opportunities afforded by this session. Address inquiries to the Secretary-General, Dr. Frank Smithies, 1002 N. Dearborn St., Chicago, Ill.

School for Water Works and Filter Plant Operators.—According to announcement, the sixth short school for water works and filter plant operators, will be held in Waco for the week beginning January 1, 1924. Mr. Geo. E. Byars, superintendent of th Waco City Water Works, will serve as chairman, an Dr. W. T. Gooch, president of the Texas Wate Works Association, will act as dean of the school t be conducted. The course will be given under th joint auspices of the Texas Water Works Associatio City of Waco Water Board and Health Departmen and Baylor University, with the Texas State Boar of Health and Southwest Water Works Associatio co-operating.

An elaborate program, carefully compiled to cove the needs of those who will participate in the schoo has been circulated, and the project has been give considerable publicity. Attendance is open to all wh have to do with the protection of municipal wate supply, including health officers, engineers and th like.

The American Association for the Study of Goite will meet in Bloomington, Illinois, January 23, 24, 2 1924, with headquarters at the Illinois Hotel. Opera tive clinics will be conducted at the St. Joseph Hos pital and the Mennonite Hospital. The general ses sions, exhibits and place of registration, will be a the Unitarian Church. Space for exhibits will b available free to advertisers in state medical journal Complete program will be ready for circulation Jan uary 10. Those interested should communicate wit the secretary, Dr. J. D. Moschelle, Indianapoli Indiana.

Dr. E. P. Sloan of Bloomington, Illinois, is presi dent; Dr. Geo. W. Newell of Burlington, Wisconsi vice-president, and Dr. J. R. Yung of Terre Haut Indiana, treasurer.

Of special interest on the program is a full dis cussion of anesthesia and anesthetics, includin ethylene-oxygen, the new general anesthetic.

The participants so far announced, include man of the most noted surgeons giving special attentio to this condition.

Award of the Sofie A. Nordhoff-Jung Cancer Research Prize.—Dr. Johannes Fibiger, professor ordi narius in pathological anatomy at the University o Copenhagen, has demonstrated, following repeate experimentation, that parasites play an importan role in the formation of certain types of tumors i the proventriculi of rats. Furthermore he has suc ceeded in effecting papillomata and undoubted car cinoma through the parasite nematode. Where other have failed after years of persistent researches, h first met with success in artificially inducing malig nant tumors through external irritations and so ha thrown open wide new avenues to future findings Though the earlier results of Fibiger's work dat back a number of years, he unremittingly labore towards an interpretation of the significance o parasitic irritants in malignant tumor formatio likewise of mechanical and chemical irritant Fibiger and his associates have contributed gene ously to the literature of cancer production throug the feeding to rats of oats and the application of ta to their tissues. In this way they have confirme the successful work of Stahr and Yamagiva. In word, Fibiger's advances towards the solution of th problem of the causative irritants productive o cancer are at the same time most comprehensive an most remarkable.

Mortality From Tuberculosis in 1922.—The Depar ment of Commerce announces that compilations mad by the Bureau of the Census show that 90,452 death were due to tuberculosis in the registration area o the United States in 1922, with a death rate of 9 per 100,000 population. This is a drop of 2.4 pe cent since 1921, in which year the rate was 99.4 pe 100,000 population.

Though 12 states show increases in rates for 192 in 22 states there are decreases, indicating that th general trend is still downward.

To permit better interstate comparisons for the year 1922, adjusted rates based on the standard million population have been calculated. The highest adjusted rate from tuberculosis for 1922 is 172.6 per 100,000 population for Colorado, and the lowest is 36.1 for the adjoining state of Nebraska. The high rate for Colorado should not be ascribed to unhealthfulness of climate, but rather to the fact that the climate attracts those afflicted with tuberculosis.

For certain states adjusted rates have been calculated separately for the white and colored populations. In this group of states, Tennessee has the highest adjusted rate for both white and colored (respectively, 121.8 and 299.8 per 100,000 population). The lowest adjusted rate from tuberculosis for white population is 54.5 for Mississippi and this state and Florida each shows the lowest rate for colored population (171.5 per 100,000 population).

Mortality From Cancer: 1922.—The Department of Commerce announces that compilations made by the Bureau of the Census show that 80,938 deaths were due to cancer in the death registration area in 1922, which comprised about 85.3 per cent of the total population of the United States, and if the rest of the United States had as many deaths from this cause in proportion to the population, the total number of deaths from cancer in the entire United States was 95,000 for 1922, against a corresponding estimate of 93,000 for 1921.

The death rate from cancer in the registration area in 1922 was 86.8 per 100,000 population as against 86 in 1921. Only five states show lower rates for 1922 than for 1921. In comparing the death rate from cancer in one state with that in another, the bureau uses "adjusted" rates in order to make allowances for differences in the age and sex distribution of the population, because, generally speaking, only persons in middle life and old age have cancer, so that a state with many old persons may be expected to have more deaths from cancer than a state with comparatively few old persons.

The highest adjusted cancer rate for 1922 is 106.9 per 100,000 population for the state of Rhode Island, and the lowest is 53.1 for Tennessee. For a few states adjusted rates have been calculated separately for the white and colored populations. In this group of states the highest adjusted rate for the white population is 92.5 per 100,000 for Maryland and the highest for the colored population is 81.7, also for Maryland. The lowest adjusted rate for white population is 52.8 for Tennessee, and the lowest rate for the colored population is 40.8 for Florida.

SOCIETY NEWS

Bexar County Medical Society met November 8, with 100 members and eight visitors present.

Dr. A. C. Scott of Temple, read a paper on "The Reduction of Post-operative Pain by Improved Operative Technique," in which he considered many refinements of surgical technique. He said that pain suffered by a patient would not only injure the patient, but might cause friends and relatives to defer necessary operations because of fear, with serious results. Trauma to sensory nerves produces pain, which will disappear if nerve trunks are not tied or crushed. Undue prolongation of traction on the parietal peritoneum and the tying of unnecessary knots, are two of the most frequent causes of post-operative pain. The author's method of closing the abdomen avoids so many knots. Except in very long midline incisions, he uses one continuous suture, the first knot being placed in such a manner as not to touch the peritoneum and the last knot is not tied, the end being tucked under instead. The suture does not pull directly across the wound. Pain may actually be the deciding factor in the recovery of the patient. There is almost total lack of pain following cautery dissection, as in the removal of breast cancer, carbuncles, etc.

Dr. C. S. Venable, discussing the paper, emphasized the importance of perfection in technique. It has been proven that unnecessary trauma to the intestines increases the liability of gas pains, and the same rule may be applied to other situations. He had in his work endeavored to avoid pressure on the nerve supply to the rectus after right rectus incisions. All one needs is approximate union of live tissues, and except in long abdominal incisions a continuous suture is entirely satisfactory. In exceptional cases tension sutures must be used. He considers the cautery particularly valuable in third-degree cancer, and has been struck with the absence of pain following its use.

Dr. Frank Paschal believed that two or three strands of catgut in superficial fat will prevent some of the post-operative pain in abdominal cases, because of the relief of tension, especially in fat subjects. He decried the use of silk in purse-string suture of the appendix, because of the likelihood of such a foreign body causing trouble in the future. Fine catgut should be used instead.

Dr. V. M. Longmire of Temple, read a paper on "Insulin in the Treatment of Diabetes," in which he referred to the data in a series of cases at the Scott and White Hospital. The paper was accompanied by charts. Following the injection of insulin, there is a rather rapid reduction in blood-sugar for from four to six hours. Frequent blood-sugar determinations in the beginning of treatment will serve to accurately indicate the dosage. There is a quick disappearance of acetone and diacetic acid, and their presence can always be thus controlled. There is no definite amount to be metabolized by any given unit of insulin. The twenty-four hour urine specimens should be frequently examined. The diet should be as strictly controlled as when insulin is not used. For the first few days the diet should contain 1,500 calories, 25 per cent in the form of carbohydrates. This is valuable in testing out carbohydrate tolerance. No toxic symptoms had developed in the series of cases under discussion. The usual symptoms of intoxication are hunger, weakness, vertigo, low blood pressure, and in severe cases, convulsions, coma and collapse. One is justified in concluding that insulin is an invaluable aid in the treatment of diabetes, but it may hardly be considered a specific. It is a powerful drug and its administration requires close attention.

Dr. W. E. Nesbit pointed out that there will always be difference of opinion concerning any unstandardized drug or treatment. Instead of simplifying the treatment of diabetes, insulin had complicated it. The more rigid attention necessary to the diet, and the frequent blood-sugar and urine analyses, make it so. Ordinary diet should contain a maximum of 100 grams of carbohydrates, which may be obtained not only from carbohydrates but from fats and proteins as well. Fats will yield 10 per cent by weight and proteins 50 per cent by weight of carbohydrates. In the presence of one gram of oxidizing glucose, one and one-half grams of fat can be reduced with acetone and diacetic acid as by-products. The maintenance diet should contain sufficient calories to keep the patient going. He took issue with the essayist in his advice to keep the weight of patients at a low level, particularly if among the working class. If insulin is being used, carbohydrates can be given in larger quantities. In mild cases, one dose before the morning meal will suffice for the entire day. There is danger of acidosis when the carbohydrates in the diet are insufficient to oxidize the fat. An elevation

of temperature reduces the efficiency of insulin, and frequently a severe reaction is produced.

Dr. Steinwinder urged that in addition to attention to the details brought out in the treatment of diabetes with insulin, any existing infection should be eradicated. In his opinion an infected gall bladder plays an important part in the impairment or destruction of the Islands of Langerhans.

Dr. A. C. Scott, Jr., read a paper on "When a Goiter Should be Operated." He stated that it is often difficult to differentiate between neurasthenia and mild cases of thyrotoxicosis. His classification of goiter was that of the Mayo Clinic. The colloidal type of goiter usually disappears before the age of twenty-five, and can be arrested, or prevented, by the administration of iodine. In adult life, surgery is required for this type, particularly when associated with hypothyroidism, which association is rare, usually occurring in young adults. This type can be helped by the administration of thyroxin. Surgery is indicated in the non-toxic adenoma for cosmetic reasons and sometimes for the relief of pressure. A large percentage of this type of cases becomes toxic, and iodides must not be administered. The toxic variety may not show symptoms for many years, the first symptom often being myocarditis with real damage to the heart. Thirty-eight per cent of adenomatous goiters in the Scott & White Clinic became toxic. All exophthalmic goiters should be operated upon, the time of operation depending upon the condition of the patient, the metabolic rate and weight curve. He preferred to operate with a higher metabolic rate and stationary or ascending weight curve. Frequently digitalis will control a fibrillating heart so that surgery may be resorted to. One can reasonably expect 94 per cent of cures in exophthalmic goiter by surgery, and probably 80 per cent by the use of the *x*-ray. The *x*-ray cures are not always lasting, and hypothyroidism is frequently caused by this treatment. Incidentally, it is not possible to avoid the harm sometimes done to the parathyroids in using the *x*-ray. Medical treatment will not give apparent relief in this type of cases. In mild cases the metabolic rate is from 15 to 30, weight is lost slowly, blood pressure is not greatly raised and the pulse rate not at all increased. If the metabolic rate is above 50, the patient is usually very toxic and is despondent and nervous at times. In this case the weight course is markedly reduced, gastro-intestinal symptoms are often present, the blood pressure is somewhat increased, with a marked elevation of pulse pressure, and the heart is fast and prone to fibrillation. The clinical picture is that of a machine running at a high rate of speed. Not even a ligation should be attempted if acidosis is present or if the patient is in poor mental state.

Dr. Homer T. Wilson, discussing the paper, thought there was no condition requiring a greater margin of safety in surgery and offering such a small margin, as goiter. He had great respect for the lack of resistance in the usual case of exophthalmic goiter. He believed, however, that resistance in such cases might be increased by the administration of large quantities of food and much water. It is often difficult to differentiate between mild thyroid intoxication and severe neurasthenia, particularly in view of the difficulty in getting a neurasthenic in the proper frame of mind for the metabolic test. He had found it difficult to determine whether a goiter was a toxic adenoma or of the exophthalmic variety, and had made it a rule to operate when the extent of toxicity had been established, provided the condition would warrant operation. The clinical manifestation in this case is as important as the laboratory test. In the exophthalmic type, radium and *x*-ray may help to tide the patient over to a more favorable time for operation, but he does not think the *x*-ray can be compared with surgery in the matter of results. Local anesthesia and gas-oxygen general anesthesia are of advantage in these cases.

Dr. J. W. Nixon, Jr., stated that it is no longer advised to treat goiter medically before resorting to surgery, as was formerly done, particularly in the adenomatous type, because of the harm likely to be done by pressure. It is hard to determine when surgery should be resorted to in diffuse enlargement of colloidal goiter without toxic symptoms. It is more difficult to operate following the use of *x*-ray, and he doubted the permanency of results following *x*-ray treatment.

In closing, Dr. Scott, answering a question by Dr. S. Burg, stated that patients suffering from hyperthyroidism are worse in hot months and patients suffering from hypothyroidism are worse in the cold months. His paper was based on data in a series of 140 cases operated upon during the past four years, in which series there were five deaths, four of which occurred during one summer and the fifth later on in the same year. He believed that at the time these deaths occurred they were not paying enough attention to the general symptoms in their case and giving too much attention to metabolism, and also were not feeding their patients enough to keep their weight to the proper point. The *x*-ray had been used as a treatment in only three cases, and the results were not very definite. He could not state as to the value of *x*-ray treatment. He thought it could be used in conjunction with surgery.

Dr. A. C. Scott, Sr., President of the State Medical Association, addressed the society in the interest of the proposed publicity and educational campaign, giving in detail the present intentions of the Council on Legislation and Public Instruction in regard thereto.

Bexar County Medical Society met November 15, with 28 members and three visitors in attendance.

Dr. Robert E. Bowen read a paper on "The Dietary Management of Obesity," and Dr. C. D. Steinwinder read a companion paper under the title, "Cardiovascular Complications of Obesity."

Dr. Thomas Dorbandt, discussing these papers, stated that patients suffering from hypothyroidism were very commonly obese and greatly discouraged with the results obtained from treatment. It is nearly impossible to get them to carry out a strict dietary regime, and they usually drift from doctor to doctor, eventually falling into the hands of quacks and special cures, such as mineral baths, massage and the like.

Dr. C. F. Lehman was of the opinion that too little attention is paid by the medical profession to obesity, and that patients soon found this out. Probably the average doctor does not consider the conditions of any particular importance.

In closing the discussion, Dr. Bowen recited his own experience in reducing, which was rather severe and exacting. He is of the opinion that the effort is made to reduce too quickly, and occasionally the proteins are reduced below the limit of safety.

Dr. Steinwinder, closing, stated that heavy eaters, those consuming from 3,500 to 4,000 calories per day, ingest about 250 to 300 grams of proteins. He thinks this has an important effect in the causation of cardiovascular diseases, most of these cases dating back to increased loads the heart had to carry because of the large amount of food taken. Incidentally, impairment of the function of the skin and kidneys loads the heart heavily. There is also lessened vital capacity, which renders the heart less able to stand the strain. If the diaphragm is pushed up because of fat in the abdominal cavity, this condition is aggravated.

Bexar County Medical Society met November 22, with 96 members and 10 visitors present.

The regular scientific program was postponed and the meeting given over to a discussion of the proposed publicity and educational campaign of the State Medical Association.

Councilor Dr. C. S. Venable explained the purposes and plans of the campaign. He stated that it is common knowledge that the Medical Practice Act has not been enforced, and urged that active measures be taken by the profession and the public to offset the forces that are threatening the usefulness of the medical profession. The Council on Legislation and Public Instruction has been increased at the instance of the old Council until its numbers are now large enough to insure a more representative concensus of opinion in prosecution of such movements as this. There are 3,800 members of the State Association, with an investment of more than $20,000,000. He hoped that each physician would consider it his privilege to contribute to the fund for the campaign.

Dr. Burton Thorning of Houston, chairman of the Board of Councilors, in an address covering the proposed movement, stated that the profession had at last awakened to the fact that active measures must be instituted to meet the antagonistic spirit of the ignorant and the biased element at large which was injuring both the profession and the dependent sick public. The profession as a whole does not occupy the position of trust it formerly held, for the simple reason that it has been continuously put before the public in a false light, with no effort whatever to correct misapprehensions. In the attempt to popularize legitimate medicine, the newspapers would be called upon to play an important part, although there would be no propaganda put forward in the newspapers, as apprehended by some. Seventy-five years ago, according to the *Bulletin of the A. M. A.*, the conditions confronting us now very largely obtained and an article published at that time held that the trouble was that the public considered the whole controversy as between the regulars and irregulars within the profession; a war of opinion between the so-called schools of medicine. The same idea holds now, and is fostered by such cults as the chiropractic and christian science, as against the support of a small minority who are the friends of the medical profession.

Dr. M. F. Bledsoe of Port Arthur, President-elect of the State Medical Association, said that the press, being the greatest moulder of public opinion, would be used freely and at the same time the position of the medical profession would be conveyed to the public in an unmistakable manner, by the purchase of display space at the time the proposed campaign is launched. As has been said, there will be no embarrassing propaganda. As the campaign extends into the smaller communities, the same procedure will be followed in the smaller papers. The press considers the medical profession rather inconsistent in regard to newspaper publicity, because in the face of opposition to lay advertising many doctors seek every opportunity to get themselves in print without paying for it. If the movement is to succeed, and if the public is to be protected, there must be a friendly public sentiment and this campaign is intended to produce that state of affairs. A prominent physician criticized the project being undertaken, on the grounds that the money could be better spent and that it was not necessary. This physician overlooked the fact that he had succeeded in his practice very largely because of the efforts of an organized profession. He does not at this time realize the need of a friendly public, having reached the point in his professional career when he could afford to turn away patronage. It is unfortunate when a physician becomes so full of his own success that he does not feel the need of help, and does not realize that there are in the profession those who must enjoy the good will of the public, and that the public is dependent for its own protection on this same good will. The present Medical Practice Act has been fortified by virtue of a little educational activity on the part of the Association. There is no intention on the part of the medical profession to prosecute anybody, or to do anything except for the good of the public. The speaker further lamented the fact that the State of Texas is not within the registration area of the United States, which is due entirely to the failure on the part of the medical profession to report births, deaths and the presence of communicable diseases. The medical profession, incidentally, must keep faith with the public before it can expect the public to depend upon it.

Dr. W. B. Russ, Trustee, and member of the Council on Legislation and Public Instruction, called attention to the fact that the *Literary Digest* for September, 1922, carried an article quoted from a medical journal, in which it was stated that a recent questionnaire answered by 7,000 people in Chicago, developed the fact that only 16 per cent of the public, at least of the part of it addressed, were satisfied with the medical profession. The remaining 84 per cent were not only not satisfied but were dissatisfied. Those who serve best gain the most, and it is impossible for the medical profession to do its best work in the face of an 84 per cent lack of confidence. The speaker pointed to the fact that the testimony of doctors is usually disregarded in the courts, except when it discredits another doctor. Any one who has the interest of the medical profession at heart must be concerned with public opinion. We should broadcast the facts at the disposal of the medical profession, and avoid the appearance of secrecy. When we tell the public that the medical profession has stamped out typhoid and yellow fever, and lowered the mortality and morbidity in diphtheria, small-pox, and the like, the public remembers the broadly heralded assertions that a large percentage of the public have been inoculated with syphilis through the serums and vaccines that have been used to stamp out other diseases. The opinion that this has been done by the medical profession, for the sake of money, is carefully fostered. Finally, in view of the rather common practice of corporations in investing 10 per cent of their income in advertising, it would seem that the medical profession could afford to invest something less than one per cent for the same purpose. There is no good reason why the advertising could not be adapted to medical ethics and at the same time carry the weight that other legitimate advertising carries.

Bexar County Medical Society met December 6, with 46 members and two visitors present.

Dr. F. P. Herff read a paper on "Mesenteric Cysts (Serous)," in which he used the following classification: (1) lymphatic, such as those containing chyle or lymph; (2) parasitic, such as hydatid, etc.; (3) congenital, such as dermoid; (4) pseudo cysts, such as those of neighboring organs, the ovaries, pancreas, etc., for example. He did not believe that the so-called hemorrhagic cysts should be classified as a distinct type. The lymphatic cysts have been thought to be due to obstruction of lacteal vessels, but the idea has been adandoned in view of the light pressure exerted by the lacteals. They are probably lymphangiomas, beginning as lymph tumors. The constitutional symptoms vary in accordance with the size, number and variety of cysts present. The symptoms are those of malnutrition, which are loss of weight, anemia, exhaustion, etc. There may be no local symptoms, although there is usually pain, due to pressure. Diagnosis is made by exploratory operation. They are treated by puncture,

extirpation or by making a sac of the cysts. The author reported a cast with numerous mesenteric serous cysts, varying in size from that of a grape to a small lemon. Treatment was by making a sac of the cysts, although the author did not at that time appreciate that this was the standard treatment. The patient was very weak. The abdomen was opened later, and it was found that the general lymphatic enlargement present at the first operation had disappeared, with the exception of the lymphatic glands in the abdomen.

Dr. W. M. Wolf believes the condition begins with liquefaction of the lymphatic glands, for the reason that both the glands and the cysts are present. He had seen several cases with Dr. Herff, that had been thought to be mesenteric cysts but were now believed to have been cysts of the pancreas. Only 70 cases of mesenteric cysts have been found in literature by the author and the speaker. In the case referred to by the author, the cyst walls were very thin, were covered with a serous coat, and the serum found was not of hemorrhagic nature.

Dr. W. H. Hargis read a paper on "Repair of the Perineum."

Dr. P. G. Bowen, discussing the paper, said that many cases in which repair work had to be done should have been treated by prophylaxis. If the obstetrician will always keep the head well flexed and the perineum ironed out there is not so likely to be tears.

Dr. L. J. Manhoff thought that if a good lubricant is rubbed into the perineal muscles many tears can be avoided.

Dr. Wolf urged immediate repair where possible, in order to avoid infection. He does not advocate ironing the perineum as suggested, because of the danger of robbing the mucous membrane of mucus, which is a splendid lubricant. The vulva should, when possible, be stretched back over the occiput. The stretched, thin perineum will nearly always tear. He objects to silkworm gut to make repairs, because of its tendency to cut the tissues. Catgut is better.

Dr. Dudley Jackson said that he thought the primiparae in the Mission Home have few lacerations, because Dr. Luter, in charge, has taught the nurses to hold the head back until the doctor arrives.

Dr. J. H. Biggar thought the element of time was the big thing in prophylactic treatment. Frequent, small doses of pituitrin are better than large, single doses. Few tears will follow the administration of the drug in this manner.

Dr. O. J. Potthast believes in full anesthesia just as the head is being born, in order that it may be worked out between pains.

Dr. Geo. B. Cornick was elected to membership.

Bexar County Medical Society met December 13, with 35 members and three visitors in attendance.

Dr. Thomas Dorbandt reported that he had collected from one building $90.00 for the Publicity and Educational Campaign Fund, and Dr. W. H. Cade reported that he had collected $103 from another building.

Professor F. S. Eakley addressed the society on the subject, "Individual Intelligence Tests for School Children."

Dr. Dorbandt, discussing the address, emphasized the danger of allowing morons and mentally substandard persons to reproduce their kind, and stated that it has been proven a waste of time and money to try to educate these people into good citizenship. It is certainly foolish to try to better these people by imprisonment. It would be far better to treat them for their mental deficiencies.

Dr. W. B. Russ urged that the standards of intelligence of our nation are being constantly lowered by the introduction of blood from southern European nations. He said that environment can do little f people with poor heredity.

Dr. Theo. Y. Hull thought the real solution lay the school room. Of our total population, 13,000,0 will grade about 14 years of age, and only abo 1,500,000 will pass that point. It is from the latt group that our leaders will come. The great ma of people, including our unskilled laborers, will gra less than 14 years. If the superior child in scho is not given special opportunities for the develo ment of the intellect with which he has been endowe the community will suffer. In considering the ment side, the physical should not be lost sight of. A active mind will not remain active in an exhaust body. Civilization has always been regulated b the average mind. It is unfortunate that so mar of the superior women of our day are entering bus ness and taking up professional careers, thereb reducing the number of births of better childre Statistics show that there are three children born t each immigrant, and only one child to every thre college women. The criminal classes average si children to the family. The Pharoahs of Egypt a supposed to have realized that their civilizatio would be gauged by its average mind, for whic reason the great bulk of inferior persons were ke busy building the pyramids so that they would n seek to participate in public affairs.

Dr. J. A. McIntosh said that for years no headwa had been made in considering these matters, and n until the classification put forward by Binet wa the problem put on a practical basis. This test shoul be applied by persons well informed as to all of th factors involved, and not just by a teacher or perso who might be assigned to the task.

Dr. Dudley Jackson thought it perhaps fortunat that syphilis and gonorrhea were limiting the off spring in the lower classes, particularly in the negr race.

Bosque County Medical Society met at Meridia December 3, at which time the following officer were elected for the ensuing year: President, Dr. J H. Burnett, Kopperl; secretary, Dr. Fred W. Stan defer, Valley Mills; delegate, Dr. J. C. Jarrett, Valle Mills; alternate, Dr. C. C. Cate, Morgan.

Dr. N. D. Buie of Marlin, councilor, was a guest o the society and made an interesting talk on th activities of the Association.

Bowie County Medical Society met in Texarkana December 28, 1923, at which time the following offi cers were elected for the ensuing year: President, Dr W. E. Womack, Redwater; first vice-president, Dr C. A. Smith, Texarkana; second vice-president, Dr G. A. Hays, Texarkana; secretary-treasurer, Dr. J. T Robison, Texarkana; censor, Dr. W. M. Watts, Tex arkana.

Cameron County Medical Society met at Sa Benito, December 27, with a good attendance. Th following officers for 1924 were elected: President Dr. H. K. Loew, Brownsville; vice-president, Dr. C M. Cash, San Benito; secretary-treasurer, Dr. Joh Hunter, La Feria; censor, Dr. R. E. Utley, Harlingen delegate, Dr. C. M. Cash; alternate, Dr. W. E Spivey, Brownsville.

Cherokee County Medical Society met at Rusk November 27, with 30 members and visitors in at tendance.

Following an address by Councilor Dr. R. H. Mc Leod of Palestine, luncheon was served at the East Texas Hospital for the Insane, after which the following surgical clinic was held: "Inguinal Hernia; Repair of Perineum," Dr. A. L. Hathcock, Palestine; "The Dickey Major and Minor Operation for Hemorrhoids," Dr. E. V. Dickey, Dallas; "Removal of Fibroid Uterus; Inguinal Hernia," Dr. A. E. Sweatland, Lufkin; "Tonsillotomy," Dr. John B. McDougle.

Jacksonville; "Removal of Cystic Kidney; Fibroid tumor of Breast," Dr. R. T. Travis, Jacksonville.

Cooke County Medical Society has elected the following officers for 1924: President, Dr. W. J. Price, Gainesville; vice-president, Dr. W. N. Kelley, Valley View; secretary, Dr. R. C. Whiddon, Gainesville; delegate, Dr. E. C. Mead, Gainesville; alternate, Dr. J. M. Wattam, Gainesville; censor, Dr. O. E. Clements, Gainesville.

Camp County Medical Society met in Pittsburg, December 28, 1923, at which time the following officers were elected for the ensuing year: President, Dr. J. K. Bates, Pittsburg; vice-president, Dr. J. H. Mitchell, Pittsburg; secretary-treasurer, Dr. Robt. Y. Lacy, Pittsburg; delegate, Dr. Robt. Y. Lacy; alternate, Dr. C. F. Henderson, Pittsburg; legislative committee, Drs. J. H. Mitchell, J. B. Florence of Leesburg, and C. F. Henderson.

The society will hold its meeting the second Tuesday of each month.

Dallas County Medical Society met November 22, 1923, with 31 members present.

Dr. Ben L. Schoolfield presented two cases of fracture of the clavicle, showing the results of treatment with a special form of bandage.

Dr. W. T. White read a paper entitled, "Impotence in the Male," which was discussed by Drs. Carlisle, Witt, Cecil, Rosser and Worley.

Dr. W. G. Carnathan read a paper entitled, "A Study of Breast Tumors," with lantern slide demonstration.

Drs. F. M. Gilbert and P. E. Luecke were elected to membership, on application.

Dallas County Medical Society met December 13, with 133 members present.

Mr. J. L. Booty of Tyler, Texas, delivered an address on "Stammering," which was discussed by Dr. C. M. Rosser, who said that Mr. Booty contemplated opening a school in Dallas for the cure of stammering and that he should, at some future time be given an opportunity to demonstrate his methods before the society.

Dr. W. D. Jones said that he had known Mr. Booty for 28 years, and knew him to be strictly reliable in every respect. Mr. Booty was formerly himself a bad stammerer, and had corrected his own trouble.

The following committee was appointed to confer with Mr. Booty: Dr. W. M. Young, chairman; Drs. Jno. S. Turner, D. W. Carter, J. J. Terrill and Hall Shannon.

Dr. I. C. Chase of Fort Worth, chairman of the Educational Campaign Committee, of the Council on Legislation and Public Instruction, was introduced by President Dr. Rosser and addressed the society on the subject of the forthcoming educational and publicity campaign. He stated that the principal item would be an intensive lecture campaign beginning some time in January in all probability, which campaign would be forcibly brought to the attention of the public by carefully composed and thoroughly ethical newspaper display advertising. There will be no newspaper propaganda in the ordinary understanding of such procedures. A wide variety of speakers will be utilized in the campaign, all selected from our membership. The whirlwind beginning of the campaign will be followed by specially planned endeavors in many directions and localities, with the same dignified, reserved but effective newspaper publicity. The endeavor will be to bring clearly to the attention of the public the importance of depending, both in curative and preventive medicine upon an educated medical profession, and to stress the necessity of some assurance on the part of the State that those who are authorized to engage in the practice of medicine have at least had the opportunity to become informed. It was estimated that the cost of such a campaign would approximate $25,000.

President Dr. Rosser, who is a member of the Council on Legislation and Public Instruction, discussed the problem further and urged that the society take steps immediately to raise its share of the fund, which should be not less than $5.00 per capita. The sum of $1,600 was pledged at the meeting and by vote the society pledged itself to raise $2,500, one-tenth of the total amount asked for. A committee consisting of Dr. John G. McLaurin, chairman, and Drs. J. T. Watson, R. J. Gauldin, Guy T. Denton and J. M. Cauble was appointed to interview the membership in the interests of this fund.

The following officers were elected for the ensuing year: President, Dr. F. A. Pierce; vice-president, Dr. W. D. Jones; secretary, Dr. W. W. Fowler (re-elected); delegates, Dr. D. L. Bettison and C. R. Hanna; alternate delegates, Drs. L. M. Nance and W. A. Nash; censor, Dr. W. W. Shortal.

Eastland County Medical Society met in Cisco, December 11, with 33 members and several visitors present. This attendance was considered very good in view of the extremely inclement weather, and the meeting was considered one of the best in the history of the society. The splendid highways of the county contributed no little to the success of the meeting, which fact was commented upon. The ladies of the Auxiliary were very largely in attendance, and their presence contributed no little to the pleasure of the occasion.

Dr. A. C. Scott, president of the State Medical Association, addressed the society on "The Duty of the Medical Profession to the Public and the Consequent Reward." The plans of the Council on Legislation and Public Instruction for a publicity and educational campaign were outlined in detail, and the various factors making such a movement advisable at this time were discussed. Following the address, which was enthusiastically received, the necessary contributions were speedily made, and a committee of seven appointed to perfect a lay organization recommended by the council.

Dr. Kenneth M. Lynch of Dallas, addressed the society on the subject of "Cancer: The Evolution of Our Knowledge and Its Bearing on the Future." This being the regular cancer meeting of the society, the subject was widely discussed.

President Dr. Scott delivered a public address at one of the churches in the evening, which was fairly well attended considering the inclement weather. The address was along the lines of the public health addresses to be made in the proposed publicity and educational campaign, and was well received.

The following officers were elected for the ensuing year: President, Dr. R. C. Ferguson, Eastland; vice-president; Dr. M. L. Stubblefield, Gorman; secretary, Dr. Joseph W. Gregory, Cisco (re-elected); delegate, Dr. J. H. Caton, Eastland; alternate, Dr. L. C. G. Buchanan, Ranger.

El Paso County Medical Society met November 5, with 33 members and one visitor present.

Dr. W. L. Brown reported a case of fracture of the fourth cervical vertebra, exhibiting a section of the spinal cord showing the compressed area.

Dr. Paul Gallagher reported a case of anomaly of the mesentery, with retroversion of the uterus, appendicitis and stricture of the left ureter.

Dr. M. I. Leff reported a case of dysmenorrhea of twenty years' duration, which resulted from an infantile uterus. The patient had been operated on eight times and had become a morphine habitue because of the severity of the pain.

Dr. R. L. Witherspoon read a paper on "Scalping, Report of a Case," which was discussed by Drs. W. L. Brown, James Vance, B. F. Stevens and Major Wright.

Major C. R. Haig read a paper on "Liver Function," in which he brought together the research work pertaining to this condition for the past five years. He also gave a detailed description of the phenoltetrachlorphthalein test.

The appointment of a committee to act in an advisory capacity with the Gateway Club, was authorized.

El Paso Personals.—Mrs. Susan Varner, wife of Dr. H. H. Varner, died at her home October 1. Besides her husband, she is survived by two children and her parents, Mr. and Mrs. Peacock of Baysfield, Canada.

Dr. S. L. Terrell has resumed practice in El Paso, following an extended absence, and will confine his practice to the treatment of the eye, ear, nose and throat.

Dr. R. C. Young is in the Graduate School of the University of Pennsylvania for an extended course in eye work.

Dr. H. F. Gammons has returned to his home in El Paso, after an extended absence in Massachusetts.

Falls County Medical Society met at the Majestic Hotel, Marlin, November 12, with the following members and visitors present: Drs. Green and Mitchell of Kosse; Avant and Aycock of Rosebud; Garrett, Shaw, J. W. and O. Torbett, Munger, Howard Smith, Buie, Rice, Streit, Hornbeck, Bundy, Barnett, Robertson, Hutchings and Foster of Marlin; Caton of Eastland; Cross, Jones, Bidelspach, Alexander and Sadler of Waco, and Mr. Hubert Rice of Marlin.

A turkey dinner was served at 7:00 p. m., after which the following program was rendered: "Auricular Fibrillation," Dr. W. C. Bidelspach, Waco; "Toxic Heart," Dr. L. Sadler, Waco; "Pyorrhea Alveolaris," Dr. L. P. Robertson, Marlin; "Very Vital and Pressing Problems of the State Medical Association," Dr. N. D. Buie, Marlin.

Falls County Medical Society met at Marlin, December 17, with the following members in attendance: Drs. Barnett, Buie, Bundy, Hornbeck, Hutchings, Munger, Streit, Shaw, Howard Smith, J. W. and O. Torbett, O. White, all of Marlin. The following officers were elected for the ensuing year: President, Dr. O. T. Bundy, Marlin; vice-president, Dr. J. H. Barnett, Marlin; secretary-treasurer, Dr. E. P. Hutchings, Marlin; delegate, Dr. S. P. Rice, Marlin; legislative committee, Drs. Hornbeck, Howard Smith and White, Marlin.

Fort Worth Medical and Surgical Clinics were held in Fort Worth, November 22, with a good attendance.

The operative clinics were held at the City-County Hospital during the morning hours.

Dr. W. C. Duringer removed a large fibroid tumor of the uterus.

Drs. Joseph McVeigh and E. C. Schoolfield exhibited a case of diabetes mellitus in a man aged 45, complaining of polyuria, nocturia, thirst and furunculosis of both hands, with a blood sugar of 265 mg. per 100 c.c. and a 5 per cent urine sugar. Insulin had reduced the blood sugar and removed the glycosuria.

Dr. F. S. Schoonover presented a case of left-side pyelitis, which was diagnosed at the time of operation as tuberculosis; a left perinephritic abscess, with secondary anemia, splenomegaly and left-side pleurisy, and a case of painless hematuria in a woman 75 years of age, in which the cystoscope showed that the bleeding was from the right kidney.

Dr. Chas. H. Harris reported a case of subphrenic abscess, and presented a hermaphrodite four years of age in which it was difficult to determine the sex. Exploratory operation revealed the presence of a small but normal uterus, tubes and ovaries. The hypertrophied clitoris was amputated.

Luncheon was served by the ladies of the Tarrant County Auxiliary at the Tarrant County Societ rooms. Numerous talks were made following th luncheon.

The afternoon session was held in the societ rooms.

Dr. T. H. Thomason presented a patient sufferin with marked arterio-venous aneurysm of the le leg, which followed a stab wound received five year ago.

Dr. L. F. Rhodes presented a heart in which ther had been an aneurysm of the anterior surface of th left ventricle with a capacity of about three dram The aneurysm had apparently developed from thinning muscular wall at a point between tw unusually deep columnae carneae. It had rupture during the act of defecation.

Dr. E. P. Hall reported a case apparently o malignancy of the mouth, in which the cheek ha been perforated regardless of treatment. Laborator examination disclosed syphilis.

Drs. E. H. Bursey and L. M. Whitsett discusse strictures of the esophagus, presenting cases, one malignancy and the other from the ingestion of ly The importance of maintaining dilatation of benig strictures by frequent use of the bougie was stresse by Dr. Whitsett, who stated that frequently the recover if treatment is persisted in until adult life

Dr. J. B. Shannon presented a patient sufferin from gastric neurosis.

Dr. E. W. Tisdale presented a patient, a bab two months old, which had developed three telan giectatic naevi on various parts of the body. The were not in evidence at the time of birth.

Dr. Bacon Saunders delivered an address on "Th Doctor as a Man of Affairs," in which he stresse the desirability of physicians making themselve felt in the affairs of their respective communities He urged that frequent nonprofessional visits an talks with friends would help both the laity and th profession. He also dealt upon the necessity o ordinary business courtesy between physicians. Dr Saunders was thanked by a vote of the audience fo his presentation of the subject.

Grayson County Medical Society met December 4 with Dr. A. W. Atcheson presiding and the following members present: Drs. R. E. Truly, O. C. Ahlers H. T. Walker, A. G. Sneed, A. A. Blassingame, G. E Henschen, J. A. Rutledge, J. E. Meador, E. W. Richardson, O. H. Miller, E. L. Seay and W. A. Lee.

Dr. G. E. Henschen made a supplementary favorable report on the case of carcinoma, recently reported as under x-ray treatment.

Dr. J. A. Rutledge presented a negro, 22 years o age, with a general, pronounced enlargement of th right leg, following an injury to the leg in 1914.

Drs. Seay and Miller presented an infant, tw months old, with an angioma of the forehead, about the size of a fifty-cent piece, which made its appearance when the child was ten days old.

The lay press of Denison and Sherman was, by motion, requested to publish a paper written by Dr Acheson, on the subject of vital statistics.

The following officers were elected for the ensuing year: President, Dr. D. K. Jamison, Denison; vice-president, Dr. J. A. Rutledge, Denison; secretary-treasurer, Dr. W. A. Lee, Denison; censor, Dr. O. C. Ahlers, Sherman.

Hale-Floyd-Briscoe-Swisher County Medical Society met December 11, at which time the following officers were elected for the ensuing year: President, Dr. L. V. Smith, Floydada; vice-president, Dr. C. C. Gidney, Plainview; secretary-treasurer, Dr. E. Lee Dye, Plainview; delegate, Dr. E. O. Nichols, Plainview; alternate, Dr. J. C. Anderson, Plainview; censor, Dr. J. C. Anderson.

Hardeman-Cottle County Medical Society met in Quanah, December 19, at which time the following officers were elected for the ensuing year: President, Dr. James W. Conley, Quanah; first vice-president, Dr. T. A. Lowery, Chillicothe; second vice-president, Dr. T. D. Frizzell, Quanah; secretary, Dr. J. J. Hanna, Quanah.

Harris County Medical Society has elected the following officers for the ensuing year: President, Dr. C. C. Green, Houston; vice-president, Dr. F. O. Calaway, Houston; secretary-treasurer, Dr. H. L. Bartlett, Houston.

Hidalgo County Medical Society met at McAllen, December 6, and elected the following officers for the year 1924: President, Dr. G. W. Edgerton, Riogrande; vice-president, Dr. J. T. Caldwell, Mission; secretary-treasurer, Dr. C. B. Buck, Mercedes; censor, Dr. J. G. Harrison, McAllen.

The local doctors and their wives entertained visiting members at a recital, the music being furnished by the McAllen orchestra.

Hopkins County Medical Society met December 5, and elected the following officers for the ensuing year: President, Dr. J. J. Dial, Sulphur Springs; vice-president, Dr. W. E. Connor, Cumby; secretary-treasurer, Dr. F. A. White, Sulphur Springs (re-elected); delegate, Dr. W. E. Connor; alternate, Dr. W. S. Southerland, Sulphur Springs; censor, Dr. F. A. White.

Complete plans for 1924 were discussed and concluded. Prospects are for a most interesting and profitable society year.

Jack-Young County Medical Society has elected the following officers for the ensuing year: President, Dr. C. C. McClure, Jacksboro; vice-president, Dr. W. O. Padgett, Graham; secretary-treasurer, Dr. D. E. Winstead, Graham; censors, Drs. W. O. Padgett of Graham, E. Hughes of Bryson and L. B. Woods of Jacksboro; delegate, Dr. R. A. Duncan, Graham; alternate, Dr. S. B. Locker, Jacksboro.

Jones County Medical Society reports the following officers elected for the ensuing year: President, Dr. J. F. Taylor, Hamlin (re-elected); vice-president, Dr. A. D. McReynolds, Stamford; secretary, Dr. A. McK. Jones, Anson (re-elected); delegate, Dr. J. F. Taylor; alternate, Dr. I. Z. Brown, Leuders; censors, Dr. J. T. Bynum of Hamlin and D. Southard of Stamford; public health committee, Drs. A. McK. Jones, F. E. Hudson and J. T. Bynum.

Milam County Medical Society met in the Auditorium Hotel Parlors, Cameron, December 11, with the following members and visitors in attendance: Drs. Epperson, Taylor, Sapp, Denson, Monroe, Watson (dentist), and Rischar of Cameron; J. Z. Young of Buckholts, W. A. Denson of Ben Arnold; Turner, Greer, Graves and Lapat of Houston; E. A. Cayo of San Antonio, and C. J. Conner of Franklin.

The following program was rendered: "The Value of Routine Examination of the Prostate," Dr. W. B. Turner, Houston; "Spirochetes Bronchialis," Dr. A. E. Greer, Houston; "Bald Heads, Etiology and Treatment," Dr. J. H. Graves, Houston; "Reflex Pain," Dr. W. M. Lapat, Houston; "Tuberculosis of the Bones and Joints," Dr. E. A. Cayo, San Antonio.

The following officers were elected for the ensuing year: President, Dr. M. C. Sapp, Cameron; vice-president, Dr. A. S. Epperson, Cameron; secretary-treasurer, Dr. G. B. Taylor (re-elected), Cameron; delegate, Dr. J. Z. Young, Buckholts; alternate, Dr. G. B. Taylor, Cameron.

Supper was served the society and visiting physicians at the Auditorium Hotel.

Montague County Medical Society met in called session at Montague, January 8, 1924, at which time the following officers were elected: President, Dr. W. W. Davis, Nocona; vice-president, Dr. E. E. Johnson, Montague; secretary-treasurer, Dr. J. E. Smith, St. Jo; delegate, Dr. E. W. Wright, Bowie; alternate, Dr. J. E. Smith.

Tarrant County Medical Society met December 5, with a large attendance.

Dr. Arthur Brown reported the organization of a committee representing all civic bodies in the city, and the Chamber of Commerce, to study municipal affairs. He had attended as representative of the county society, and recommended that the county society endorse the movement and authorize its president to participate. This was done.

Upon the suggestion of Dr. Bacon Saunders, the society offered to co-operate with the Fellows of the American College of Surgeons in entertaining the Southwestern group meeting to be held in Fort Worth, January 22-23.

Dr. I. L. Van Zandt of Fort Worth, was elected a life member of the society, and the secretary directed to pay his State dues each year.

The secretary was directed to collect only $15.00 of the $25.00 dues, for the year 1924.

The following officers were elected for the ensuing year: President, Dr. Edwin Davis; vice-president, Dr. R. H. Gough; secretary-treasurer, Dr. C. P. Hawkins; delegate, Dr. J. H. McLean; alternate, Dr. E. P. Hall; censors, Drs. L. O. Godley and C. F. Hayes.

Tarrant County Medical Society met December 18. Dr. Wilmer L. Allison, chairman of the entertainment committee, reported that the North Texas District meeting had cost $350.00. This amount had been taken from the funds remaining after the entertainment of the State Medical Association in May. By vote of the society, the committee was directed to turn the balance of this fund into the treasury of the society.

The proposed bond issue for the erection of a million dollar City-County Hospital, was discussed at length. The society eventually went on record as in favor of the project and the president was directed to confer with the incoming president and select a committee to consider the whole problem of health and hospital administration in the city and county. The following committee was appointed: Drs. Edwin Davis, Webb Walker, J. H. McLean, Chas. Harris, H. K. Beall, Bacon Saunders, Arthur Brown, Alden Coffey, W. G. Cook, W. R. Thompson, L. A. Suggs, Holman Taylor, M. E. Gilmore, E. P. Hall, A. W. Montague, W. C. Duringer, Lyle Talbot, C. F. Hayes, E. W. Tisdale, F. L. Rhodes, S. A. Woodward, Wilmer L. Allison, I. C. Chase, W. S. Barcus, Chas. F. Clayton and I. A. Withers.

The proposed bond issue for improvement of the public schools of Fort Worth was also discussed, and it was eventually decided to allow this matter to rest until the more pressing hospital problem had been cared for. The need of proper supervision from a health standpoint, of children attending the public schools, was acknowledged, particularly as relates to tuberculous children. It was the concensus of opinion that the open air schools and other plans for bettering the physical condition of school children should be studied and applied where practicable.

Taylor County Medical Society has elected the following officers for the ensuing year: President, Dr. Stewart Cooper, Abilene; vice-president, Dr. J. H. Bailey, Clyde; secretary-treasurer, Dr. M. E. Campbell, Abilene; censor, Dr. C. B. Leggett, Abilene; delegate, Dr. R. I. Grimes, Merkel; alternate, Dr. L. J. Pickard, Abilene; legislative committee, Drs. M. Armstrong, Merkel, and T. B. Bass and J. H. Ball of Abilene.

Travis County Medical Society met December 20, at which time the following officers were elected for the ensuing year: President, Dr. N. R. Jackson, Manor; vice-president, Dr. John C. Thomas, Austin; secretary, Dr. Dalton Richardson, Austin.

Upshur County Medical Society met December 21, at which time the following officers were elected for 1924: President, Dr. G. A. Taylor, Bettie; vice-president, Dr. W. Hyde, Big Sandy; secretary-treasurer, Dr. H. J. Childress, Gilmer (re-elected); censor, Dr. T. S. Ragland, Gilmer; delegate, Dr. J. G. Daniels, Gilmer; alternate, Dr. J. C. Winn, Gilmer.

Van Zandt County Medical Society met at Canton, December 7, with nine members present.

Following several case reports, Dr. D. Leon Sanders read a paper on "Endocrines with Reference to Etiology and Treatment of Dysmenorrhea," which was liberally discussed.

The following officers were elected for the ensuing year: President, Dr. Felix V. Bryant, Canton; vice-president, Dr. Willard C. Hearin, Canton; secretary-treasurer, Dr. D. Leon Sanders, Wills Point (re-elected); censors, Drs. Marion L. Cox of Canton, Wm. H. Terry and V. Bascom Cozby, both of Grand Saline; delegate, Dr. D. Leon Sanders; alternate, Dr. B. B. Brandon, Edgewood; Committee on Public Health and Legislation, Drs. L. W. Shoemaker of Canton, Frank L. Lee of Ben Wheeler, and B. B. Brandon.

North Texas Medical Association held its eighty-sixth semi-annual meeting in Fort Worth, December 11-12, with a registration of 160. The attendance was curtailed somewhat by the inclement weather.

President Dr. M. M. Morrison of Denison, delivered an address covering the achievements of scientific medicine in relief of disease, in which he pointed to the indisputable fact that through the efforts of the scientific man of medicine yellow fever, smallpox, typhoid fever, syphilis, cancer, tuberculosis, diabetes and other diseases, had been or were being brought under control and the hidden recesses explored. Advancements made in the various fields of curative medicine, in general and special practice, were brought out. The altruism of the practice of medicine and the freedom from thought of money accumulation and self-aggrandizement, are outstanding attributes of the physician. A plea was addressed to the public and the profession to aid in the banishment of ignorance, superstition, fads, isms, and irregularities in caring for sick people.

Dr. A. W. Acheson of Denison, speaking on the subject, "Will Education Eliminate the Quack?" urged that our people be properly nourished and properly educated from childhood up, by which method only will quackery ever be eliminated. He insisted that milk and butter is being too generally replaced by pork and lard in the feeding of children. He pointed out that the census reports showed that intelligence is in direct ratio to the amount of milk used and inverse ratio to the amount of pork used, in the several States of the Union. It was the speaker's opinion that a glass of milk at each recess is worth more than any amount of athletic appliances for each child attending school.

The general subject covered by the two addresses was further discussed by Drs. I. C. Chase and Holman Taylor. Plans for the educational campaign to be launched by the Council on Legislation and Public Instruction of the State Medical Association, were outlined and spoken on briefly.

The following scientific program was rendered: "The Operative Treatment of Infantile Paralysis" (with lantern slides), Dr. Ben L. Schoolfield, Dallas; "When Should Prostatectomies be Done?" Dr. E. H. Bursey, Fort Worth; "The Relation of the Clinical Pathologist to the Surgeon," Dr. M. E. Bell, Dallas; "Appendicitis in Children," Dr. Chas. H. Warren Dallas; "Left-sided Pain in Appendicitis," Dr. T. H Thomason, Fort Worth; "Early Diagnosis and Treatment of Brain Tumors" (with lantern slides), Dr. E R. Carpenter, Dallas; "Surgical Results of Spina Cord Tumors" (illustrated), Dr. W. O. Ott, For Worth; "Conditions that Influence Choice Betwee Drainage and Removal of the Gall Bladder," Dr. A G. Sneed, Denison; "Endocrinology and Ductless Glands," Dr. C. D. Franklow, Pilot Point; "Presentation of Two Brain Tumors," Dr. John S. Turner Dallas; "When Should a Goiter be Operated?" Dr A. C. Scott, Jr., Temple; "Intracranial Hemorrhage of the Newborn," Dr. W. L. Allison, Fort Worth; "The Present Treatment of Diabetes Mellitus," Dr David W. Carter, Dallas; "The Treatment of Pneumonia," Dr. R. B. Giles, Dallas; "Conservatism in Diagnosis of Tuberculosis," Dr. W. S. Barcus, Fort Worth; "Diagnosis of Tuberculosis," Dr. John Potts Fort Worth; "Presentation of a Case of Heart Disease," Dr. K. H. Beall, Fort Worth; "Angioneurotic Edema," Dr. R. B. McBride, Dallas; "Carcinoma of the Adrenal, with Report of a Case" (illustrated), Dr J. F. McVeigh, Fort Worth; "Medical Treatment of Gynecological Cases," Dr. J. E. Gilcreest, Ennis "Multiple Serositis—Outlining a Valuable Method for Diagnosis," Dr. J. R. Lehman, Dallas.

Resolutions were adopted approving the work of the Texas Public Health Association in its fight against tuberculosis and endorsing the Modern Health Crusade and the annual Tuberculosis Christmas Seal Sale.

The following officers were elected for the ensuing year: President, Dr. G. D. Lain, Sanger; vice-president, Dr. L. H. Reeves, Fort Worth; secretary-treasurer, Dr. Will S. Horn, Fort Worth (re-elected).

The association was entertained at luncheon at noon on each day of the meeting. These luncheons were well attended, and interesting speeches were made by members and visitors.

The ladies of the Tarrant County Auxiliary entertained the association at the University Club on the evening of the first day of the meeting, with a musicale and dance.

CHANGES OF ADDRESS.

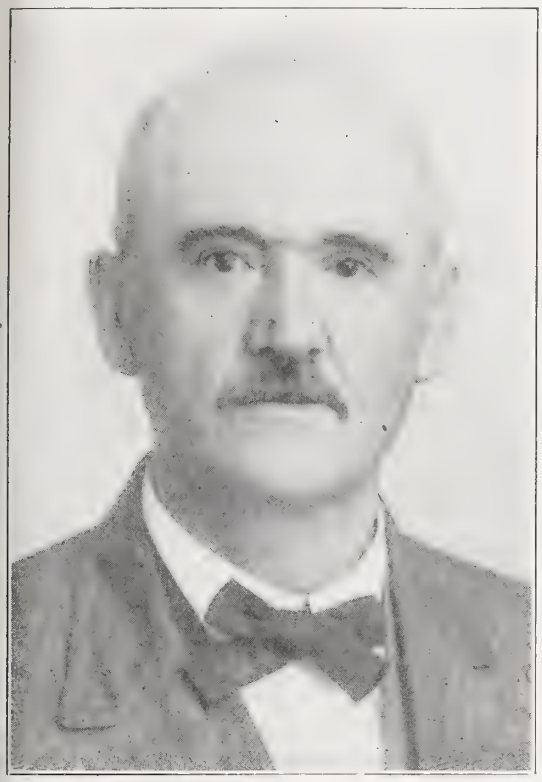
Dr. H. S. Kinard, from San Antonio to El Paso.
Dr. W. H. Dunn, from Rochester to Lamesa.
Dr. J. V. Dozier, from Cibolo to Flatonia.
Dr. E. O. Boggs, from Concord to Spring.
Dr. R. L. LaRue, from Eustace to Nacogdoches.
Dr. W. N. Sneed, from Fairfield to El Paso.
Dr. R. H. Crockett, from Austin to San Antonio.
Dr. H. H. Ponton, from Mexia to Corsicana.
Dr. N. J. Slaughter, from Ravenna to Pottsboro.
Dr. R. M. Prather, from San Antonio to Houston.
Dr. W. T. Malone, from Kosse to Corsicana.
Dr. P. M. Payne, from Fulshear to New Orleans, La.
Dr. D. R. Venable, from Oklahoma City, Okla, to Fort Worth.
Dr. D. D. Smith, from Denton to Melvin.
Dr. Oscar Huff, from Castell to San Marcos.
Dr. D. R. Woods, from Perrin to Weatherford.
Dr. W. L. Simmons, from Brazos to Breckenridge.
Dr. J. M. Nichols, from Bangs to Coleman.
Dr. S. P. Sellers, from Acworth to Apple Springs.
Dr. J. B. Birt, from Whitewright to Harper.

PAY YOUR DUES NOW
GET A BLUE CARD

DEATHS

Dr. M. H. Eads of Sweeny, died in Houston, Novem-ber 7, 1923.

Dr. Eads was born in Rock Castle, Kentucky, April 3, 1851, and when but a small child moved with his parents to Bethany, Mo. He united with the Chris-tian Church at the age of twelve years, and has since continued to live a consistent Christian life. He graduated from the College of Medicine and Sur-gery, Ann Arbor, Michigan, in 1876, and from the St. Joseph's Hospital Medical College, St. Joseph, Mo., in 1881. He practiced at Bethany, Mo., a few years, later going to New Hampton, Mo., where he lived until 1912, at which time he moved to Sweeny, Texas, where he has since practiced. He was married to Miss Laura E. Copeland in 1878, to which union were born four sons. His wife died in 1910,



DR. M. H. EADS.

and in 1916 he was married to Miss Bertha C. Ballard of Sweeny, Texas, to which union three children were born. He is survived by three sons by his first marriage, and by his wife, one daughter and two sons by the second marriage, all of whom live at Sweeny.

Dr. R. W. McFerran of Childress, died October 5, 1923, at Kansas City, while en route to Rochester, Minnesota, for treatment.

Dr. McFerran was born in Mobile, Alabama, in 1872. His mother having died when he was quite young, he was reared by an aunt. He graduated from Baylor Medical College, Dallas, in 1901, and went to Childress the following year, where he practiced until he suffered a stroke of paralysis, last May. Dr. McFerran established a hospital at Chil-dress, and was well known as a surgeon.

On October 10, 1915, he married Miss Inez Jones, daughter of Mrs. J. A. Morris.

He was a member of the Episcopal Church, of the Elks and other fraternal orders, and was for many years an active member of the State Medical Associ-ation.

He was buried the eighth of October, and the floral offering was one of the largest ever seen in Childress.

Dr. McFerran is survived only by his widow; his father, mother, brothers and sisters having preceded him in death.

Dr. W. J. Wheeler of Commerce, Texas, died Sep-tember 28, 1923. He was born in Birmingham, Alabama, March 24, 1869, received his preliminary education in Howard College, Birmingham, and graduated in medicine from the Emory University School of Medicine, Atlanta, Georgia, March 6, 1890.

DR. WM. J. WHEELER.

He was married to Miss Beulah Appleton on Decem-ber 24, 1891, to which union eight children were born, seven of which survive.

Dr. Wheeler began the practice of medicine in Dolomite, Alabama, two years later going to Collins-ville, Alabama, where he practiced until 1895, when he came to Texas, locating at Fairlie, Hunt County. In 1902, he moved to Commerce, where he practiced until 1921, when he was forced to give up his work on account of ill health.

Dr. W. M. Stewart of Kaufman, died November 9, 1923, aged 72 years.

Dr. Stewart was a native of Mississippi, coming to Texas when a young man. He taught several years in the rural schools of his community, later attending the University of Louisville, from which institution he received his degree in medicine in 1881. He began practicing at Prairieville, Kaufman County, Texas, where he continued to practice for ten years, when he located in Terrell. There he practiced until a few years before his death, being forced to retire on account of ill health. Dr. Stewart's wife died several years ago, and he had no children.

BOOK NOTES

Gynecology. By William P. Graves, M. D., Professor of Gynecology at Harvard Medical School. Third Edition, Thoroughly Revised. Octavo volume of 936 pages with 388 halftone and pen engravings, and 146 microscopic drawings, 103 of the illustrations in colors. Philadelphia and London: W. B. Saunders Company. 1923. Cloth, $9.00 net.

Of his own work the author, in his preface, says: "In the third edition of this book it has seemed advisable to preserve the original arrangement of subjects and to make such revisions as will bring the material thoroughly up to date. To accomplish this purpose more than 200 changes have been made in the text and illustrations in the way of additions, omissions and corrections. Of these changes, the most extensive have been made in the subject of 'Ovarian Tumors,' in the etiology and pathology of which much new knowledge has been acquired. The epochal work of Dr. John A. Sampson on 'The Perforating Hemorrhagic Cysts of the Ovary' has been included, and is of such far-reaching importance in the general pathology of the female pelvis that it has necessitated many changes in the text throughout the book. A number of newer operations that have stood the test of experience have been added. These are, for the most part, in the line of plastic surgery and are introduced in order to give the student as wide a choice as possible in following the work of the best modern operators. Many additions and substitutions have been made in the drawings from microscopic sections, with the hope of keeping before the student's mind the extreme importance of becoming familiar with the special phases of gynecological pathology."

The text is divided into three parts: Physiology and Relationship of Gynecology to the General Organism; Gynecological Diseases, and Operative Gynecology. The first edition of this valuable work appeared in 1916. It has been reprinted twice in each edition.

Abt's Pediatrics. By 150 specialists. Edited by Isaac A. Abt, M. D., Professor of Diseases of Children, Northwestern University Medical School, Chicago. In eight octavo volumes, totaling 8,000 pages, with 1,500 illustrations, and separate Desk Index Volume free. Now ready—Volume I, containing 1,240 pages, with 284 illustrations; Volume II, containing 1,025 pages, with 180 illustrations. Philadelphia and London: W. B. Saunders Company, 1923. Cloth, $10.00 per volume. Sold by subscription.

If the subscriber is looking for a comprehensive, almost exhaustive work upon pediatrics, he ought to find this one quite sufficient. In this busy, crowding period of specialism, if the practitioner or student is satisfied with a single group of pediatricians who represent international thought and practice in the medical and surgical world, this set will find space in his library. The chapters are written by specialists of the highest class, physicians who have won enviable places in medicine and surgery, as well as the allied sciences.

Volume I contains the following: "An Introductory Essay, Encyclopedias Which Refer to the Diseases of Children"—Abt; "History of Pediatrics"—Garrison; "A Summary of the Anatomy of the Infant and the Child"—Scamon; "Congenital and Acquired Predisposition and Heredity"—Little; "Growth and Development"—Robertson; "Physiology of Metabolism in Infancy and Childhood"—Mulin; "Application of Physical Chemistry to the Physiology of Childhood"—McClendon; "Hygiene of the Home"—Ramsay; "Hygiene of the School Age"—Young; "Hygiene of Infants in General"—Ramsay; "Climatotherapy"—Wakeham; "Hygiene of Crippled Children"—Orr.

Volume II has 22 chapters, as follows: "The Mo talities of Infancy"—Bolt; "History Taking and tl Physical Examination of Infants and Children"- Jampolis; "Cerebrospinal Fluid"—Levinson; "Roen genology in Pediatrics"—Rodda; "Peculiarities Diseases in Childhood"—Diven; "Prophylaxis a Treatment" — DeBuys; "Heliotherapy" — Dietricl "Diseases of the New Born"—Pearce; "Prematu Infants"—Hess; "Chemistry and Biology of Milk"- Heineman; "Breast Feeding and Nutrition"—Sedg wick and Cole; "Artificial Feeding of Infants"- Brennemann; "Diabetes Melitus"—Strouse; "Di betes Insipidus"—Kahn; "Seasickness"—Corcora "Beriberi"—Vedder; "Acidosis" Howland and Ma riott; "Obesity"—Hempelmann; "Infantile Scurv (Barlow's Disease)"—Hess; "Pellagra"—Snide "Rickets"—Hess; "The Constitutional Diathesis of th Child"—Schulte; "Acrodynia"—Weston.

The set is characteristic of the publishers, an justifies the work and reputations of its numerou contributors.

Modern Spiritism, Its Science and Religion. B A. T. Schofield, M. D., Vice-President Victori Institute, Etc., Etc., Author of "The Uncon scious Mind," "Borderland of Science," an "The Goal of the Race." Authorized America Edition, with a Foreword by Newell Dwigh Hillis, Pastor of Plymouth Church. Philadel phia. P. Blankinston's Son & Co.

Dr. Schofield has made a very creditable expose o modern spiritism, but he leaves too much of the his tory of the subject to be explored by the reader; tha is to say, the author often refers the reader to som more or less known devotee of spiritualism for hi point, thereby assuming that the reader has as muc knowledge of what has been claimed by others a has the author. It appears to us from a limite knowledge of the subject, that the followers of th doctrine of spiritualism are like the ancient Greek were when they sought to explain the natural ele ments. Having no knowledge of any of the sciences they created *Mythology*. The spiritualists, in thei quest for proof of a future existence, having no knowl edge of the Holy Bible and its teachings, produce the *medium*. They remind us of a baby crying in the dark.

Diseases of the Skin. By Richard L. Sutton, M. D., LL. D. Professor of Diseases of the Skin, University of Kansas School of Medicine; Former Chairman of the Dermatological Section of the American Medical Association; Assistant Surgeon, United States Navy. Retired; Dermatologist to the Christian Church Hospital. With 1,069 Illustrations, and 11 Colored plates. Fifth Edition, Revised and Enlarged. C. V. Mosby Company, St. Louis. 1923. $10.00.

The author of this excellent work has brought it up to date, and it will be of the utmost value to the subscriber as a text-book on affections of the skin. Previous editions have been favorably noticed in the JOURNAL. Our readers will find that this book still holds its enviable place in the literature on dermatology.

The field of study has been classified as follows: "Anatomy, Physiology, General Etiology, Pathology, Symptomatology and Treatment;" "Hyperemias;" "Inflammations;" "Hemorrhages;" "Hypertrophies;" "Atrophies;" "Anomalies of Pigmentation;" "Neuroses;" "New Growths; "Diseases of the Appendages —the Hair and Hair Follicles, Sebaceous Glands, the Coil Glands, and the Nails;" "Parasitic Affections— Due to Animals and Fungi," and "Diseases of the Mucous Membranes Adjoining the Skin."

Texas State Journal of Medicine

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Vol. XIX **February 1924** **No. 10**

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH OF TEXAS

San Antonio Session, April 29-30, May 1.— The usual time of meeting would be during the week of May 11. It was found at the last minute that the Oklahoma State Society would be compelled to meet during that week, and it seemed desirable to avoid a conflict, because of the large number of Texas physicians in the Panhandle who might desire to attend, aside and apart from the general desirability of avoiding conflict with any of our neighboring states. Facing this contingency, the Trustees first decided upon May 6-7-8. Here again there was disappointment. It happens that several largely attended conventions had already been booked for San Antonio for the week of May 4, and in order to avoid the unpleasant experience of crowded hotels, the extremely early dates above announced were selected. There will be no further changes, as the Bexar County Medical Society and the San Antonio Chamber of Commerce, have assured us that for the week selected we may have exclusive possession.

In this connection, the meetings of neighboring state associations and the American Medical Association, are as follows: Louisiana, at Opelousas, April 22-24; Arizona, at Phoenix, April 24-25-26; Oklahoma, at Ardmore, May 13-15, Arkansas, at Fayetteville, May 20-22; New Mexico, at Santa Fe, May 27-29; American Medical Association, at Chicago, June 9-13.

Reduced rates have already been granted by the railroads, on the identification certificate plan, the same plan granted us last year, and the same rates, one and one-half fare for the round-trip. The dates of sale will be April 27-29, inclusive, with return limit May 4. County societies will be furnished with identification certificates as before, which certificates will entitle members to the purchase of round-trip tickets at the reduced rates, thereby completing the transaction in the beginning, which is a distinct advantage over the usual verification plan, which requires members to purchase one way tickets at the regular rate, taking receipts for their purchases, and after complying with numerous requirements at the place of meeting, purchasing return trip tickets at one-half fare.

It is not too early to begin to plan to attend the San Antonio meeting, which we are assured will be a thing of beauty and joy forever.

The local arrangement committee reports satisfactory progress in the matter of arrangements for the meeting. It is believed that the meeting places can be grouped very conveniently to the hotels, and that they will be ample and satisfactory from the standpoint of comfort and acoustics. Definite announcements in this particular will doubtless be made in the next number of the Journal.

The Arrangement Committee desires that an oversight in the appointment of local committees be corrected. Through error in typing, the name of Mrs. R. L. Dinwiddie was omitted from the Committee on Woman's Auxiliary. This omission seems to be a matter of considerable importance because of the prominence of Mrs. Dinwiddie in the affairs of the Woman's Auxiliary of the

Bexar County Medical Society—in fact, she is the retiring president of that organization.

The title of the Committee on Entertainment has been changed so as to embrace the usual Committee on Reception. The committee has been enlarged, but the personnel has not yet been finally decided upon.

Chicago Session A. M. A., June 9-13.—The Trustees of the American Medical Association, confronted with the probability of a conflict with the Republican National Convention, at that time threatening Chicago, should the usual dates for the annual session for that section of the country be selected, tentatively decided upon May 19-23. However, investigation disclosed that the temperature in Chicago during that particular week has, with few exceptions, been disagreeably cool, which is an item of importance, in view of the decision to hold the meetings in the unheated buildings of the Municipal Pier. The difficulty was automatically met by the decision of the Republican National Committee to hold its convention elsewhere. The Trustees promptly, then, decided upon June 9-13, which dates, it seems, will not be changed. Our members may safely set aside these dates for the purpose of attending the sessions of this great organization.

Arrangements for the session are being printed each week in *The Journal of the A. M. A.*, to which the attention of our readers is directed. The Registration Bureau, commercial and scientific exhibits and section halls, will be located on the Promenade floor of the Municipal Pier, which will prove very agreeable and convenient. Those of our members who are interested in the scientific exhibits should communicate at once with the "Director, Scientific Exhibits, American Medical Association, 535 North Dearborn Street, Chicago." No assignments of space will be made before April 4.

Pay Dues Promptly.—There are those, no doubt, to whom the county society dues mean something in a financial way, as small as they usually are, but unquestionably the great majority of our members can pay dues now as well as later. We urgently insist that it be now rather than later. To begin with, the county society secretary, who is responsible for the collection of dues, is working without pay and is entitled to this consideration. It is a bother to him to have to scheme and plan and write and urge, in the basic matter of collecting dues. If a county secretary can collect his dues and get in his annual report without delay, he will feel that his services are appreciated, and his duties will not be considered burdensome. Incidentally, the office of the State Secretary, always overrun with work, is usually overwhelmed during the latter part of March and the entire month of April, and in the rush an overworked clerical force is likely to make errors which will prove embarrassing to all concerned later on. This can all be avoided. And it should be remembered that the deposits of the State Medical Association bear interest on daily balance; the money representing dues paid would probably return nothing to the individual.

To date (February 1), dues for 368 members have been received in the office of the State Secretary. Hunt County Society made the first payment, $5.00, December 6. Harrison County Medical Society made the second payment, December 10, and by December 13 had paid for twenty members. Hopkins County Society paid for four members on December 11, closely followed by Wise and Hidalgo, with one each, on December 19, and Anderson, Upshur, Fayette and Jack-Young, by December 27, with from five to seven members each. These payments were made without solicitation from the State Secretary.

Many secretaries are, no doubt, withholding payment pending receipt of the annual report blanks. We anticipate that dues are being collected satisfactorily by county society secretaries. We are merely urging that their task be made as light as possible, that we may call upon them to make the job of the State Secretary correspondingly easy. It will be understood by all that the State Association dues remain as before, $5.00 per year. These are included in county society dues. There should be no confusion between payment of dues and contributions to the Educational and Publicity Fund, which latter is strictly on a volunteer basis, both as to the fact of contribution and the amount contributed.

Cards are blue this year. They are mailed to members as fast as the dues are received in the office of the State Secretary.

Have you a little blue card in your pocket?

Last Call for Contributions to Scientific Programs.—Members who may desire to secure places on the programs of the scientific sections should lose no time in making application for this privilege. It is the earnest desire, of course, of section officers to secure the very best contributions possible, and while the opportunity to present a paper to the State Medical Association is truly a privilege, the pleasure and profit are mutual. Prospective authors should not be unduly modest and unnecessarily backward. Conditions require that the procedure of compiling scientific programs be orderly and after a well understood plan. It is not intended that any onus be placed upon the contributor, in the recently adopted rules pertaining to such matters. It has been suggested that these rules be republished. They follow:

1. Papers for the several sections shall be limited approximately as follows:

Section on Medicine and Diseases of Children, 25.

Section on Surgery, 25.

Section on Ophthalmology, Otology, Rhinology and Laryngology, 20.

Section on State Medicine and Public Hygiene, 20.

Section on Gynecology and Obstetrics, 18.

2. Each section shall have a paper on Cancer, to be contributed on invitation of the section officers.

3. Section 4, Chapter X, of the By-Laws shall be rigidly enforced. This section reads as follows:

"All addresses and papers coming before the scientific sections shall be presented in typewritten manuscript. All papers so presented by members of the Association must first have been read before the county society, or where the county society is not available, the district society of which the author is a member, and the secretary of such society shall certify to the section secretary that such paper has been read in toto.

4. Prospective contributors will be required to submit preliminary drafts of their respective papers, in duplicate, to the secretaries of proper sections.

5. The program will be closed March 15. Papers will be only tentatively accepted before that time. Papers finally accepted for the program will be returned for finishing touches. Papers not accepted will also be returned, and without prejudice. They will not be used because they do not fit into the program, are duplicates of papers having priority because of date of submission, or are not desirable for any number of reasons not reflecting on the character of the papers themselves.

6. Secretaries of county and district societies are expected to co-operate with officers of scientific sections in securing offers for the several programs. Papers of special value read before these organizations should be placed at the disposal of the proper section.

The list of section officers is also republished, for the immediate convenience of our readers:

Section on Medicine and Diseases of Children—Chairman, Dr. Joe E. Dildy, Brownwood; Secretary, Dr. Jas. H. Agnew, Houston.

Section on Surgery.—Chairman, Dr. M. P. McElhannon, Belton; Secretary, Dr. H. L. D. Kirkham, Houston.

Section on State Medicine and Public Hygiene.—Chairman, Dr. A. L. Lincecum, San Antonio; Secretary, Dr. H. L. Wilder, Clarendon.

Section on Gynecology and Obstetrics.—Chairman, Dr. Everett F. Jones, Wichita Falls; Secretary, Dr. C. C. Cade, San Antonio.

Section on Ophthalmology, Otology, Rhinology and Laryngology.—Chairman, Dr. W. D. Jones, Dallas; Secretary, Dr. Chas. P. Schenck, Fort Worth.

It is understood that the programs of some of the sections have been tentatively completed.

The Educational and Publicity Fund has been approximately 25 per cent collected (February 1). The Council on Legislation and Public Instruction is marking time, pending the receipt of sufficient funds to see the campaign through. In the meantime, its various phases and angles are receiving the deliberate study of the Council. Many ideas that have been rather hazy are being clarified, and the delay, while exasperating to some of the more restless members of the Council, is serving a good purpose. The problem is more complicated than one would think for. It is desired that no blunder be committed.

The Council and the Board of Councilors, join in urging that the collection of this fund be expedited. The campaign should be begun without much further delay, in order to bring public opinion and public attention to the important matter of enforcement of the Medical Practice Act, for one thing, which is being prosecuted by the State Board of Medical Examiners. Incidentally, announcements of candidates for the State Legislature are daily being made, and the time to impress a legislator with the im-

portance of protective public health and medical legislation is when he (or she) is seeking support.

The Council has determined that it will be necessary to ask for a per capita of $10.00, in order that the required amount may be raised. There are many who cannot, and still others who will not contribute to this cause. Contributions should, preferably, be made through county society secretaries, but any money received by the Council or the State Secretary, will be receipted for and properly credited to the individual and the county society to which the individual belongs.

Class Journal Advertising.—By "Class Journal" is meant the publication which carries reading matter of interest only, or mainly, to special groups, such as the professions, trades or various business classifications. Medical journals are considered class magazines, and for years advertisers have thought of them only in connection with the advertising of products of special interest to the physician. It seems not to have occurred to the advertiser, or the medical journal management, for that matter, that doctors buy the same merchandise generally that other people buy, and that, consequently, such products could be profitably advertised in the publications they give special attention to. Doubtless an important factor is the fact that doctors also read the same general publications that other people read, where they can see all sorts of advertising.

Recently there has been quite a change in this particular. Nationally advertised products are fast finding their way into at least the better class medical journals, as they are into other class publications—but it has been a hard pull. The advertiser desires to make his advertising appropriation cover as much ground as possible, and frequently he figures that if he can appeal to the doctor, for instance, in the daily press, he can save the expense of medical journal advertising. This argument is good as far as it goes, but it falls short, distinctly, because of the fact that a large proportion of the medical profession, as is probably the case with most other groups, is considerably more interested in its own publication than all of the other advertising mediums put together. Indeed, many of them realize that but for the advertising in the pages of their favorite medical journals, the said favorite medical journals would be about one-half the size and value that they are at present, for which reason they make medical advertising pay, so far as they are concerned. Advertisers have found that out, and those who desire to concentrate reinforce their general advertising with space in the magazine of the class they are giving particular attention to at the time.

Speaking on this subject, in *Judicious Advertising,* Mr. John A. Lutz, Advertising Manager for W. B. Saunders Company, has some pertinent remarks to make, from which we quote the following:

"The opportunities in the medical field are excellent for the development of this general advertising. There is no one man looked up to in his community more than the doctor. When the doctor says anything is good, a sale is half made. If then some manufacturer would produce an article and call it the 'Doctor's Breakfast Food,' say, not only would there be created a natural demand for it from the profession, but when Mrs. John Doe had a sick son and the doctor prescribed a diet, Mrs. John Doe would likely be told that the 'Doctor's Breakfast Food' seemed a very good cereal for son. So it would be with automobiles and especially accessories. Father and doctor invariably talk motor cars if they both have them, and what better recommendation could a part, a tire, a gas have than the O. K. of the family doctor, whose machine is in constant hard use?

"The same idea of class naming could be done with almost every product in almost every class, in that way getting not only high buying power, but the prestige that goes with having your goods used by those recognized as standing high in their communities. To my knowledge no general product has been given a class name and advertised in the magazine of that class. Why shouldn't the class magazine and the trade journal be a medium for every product with an appeal to the general needs of its readers? Why circumscribe its advertising columns with the 'class' products invitation? Hats, shoes, shirts, collars, wearing apparel of all kinds; the automobiles and accessories; other general magazines, shaving creams, soaps, brushes, furniture, heating and lighting systems for the city and particularly the rural homes, foods of all kinds for general consumption, not for the sick or other special classes, but for general daily use.

"I believe it is conceded that the worker in a special field is more likely to read his class journal and place more confidence in what he reads than he does in general publications. If that be so, isn't the first step to a sale made with the appearance of the advertisement in his class journal? It would seem so. Isn't there a field here? Are not advertisers and advertising managers overlooking a rich opportunity for themselves and a wider service to the buying public, both general and special, when they neglect to consider the class magazine for general advertising?"

A friend informed us recently that a neighbor of his would eat only one of a large variety of breakfast foods advertised to the public, and when questioned stated that she saw that particular food advertised in the JOURNAL, and she knew that it would not be there if the doctors did not approve of it; and by inference, that other breakfast foods would be there if they could get the approval of the medical profession. She figured she had secured some valuable medical advice without paying for it. Another friend bought

a typewriter because he had seen it advertised in the JOURNAL, holding that a high-class medical journal would not bother with such advertising if it were not of special value. With these two incidents as an inspiration, we have sought advertising from a variety of sources from which physicians purchase very essential supplies, notably automobiles. We have not been successful. The automobile dealers feel that the doctor will buy according to the persuasiveness of the dealer, anyway. Some day, an enterprising agent for a car which we can afford to push, will reap a harvest through the advertising pages of the JOURNAL.

Last month we published a number containing 114 pages, of which 64 were reading and 50 were advertising pages. The month before the JOURNAL contained 104 pages, of which 54 were reading and 50 advertising pages. We made $29.00 more on the larger than we did on the smaller publication, notwithstanding the difference in reading pages, and the fact that there were the same number of advertising pages. There was a two-page insert, which made the difference—and our readers were the gainers by ten pages of reading matter. Occasionally a member fills out a coupon and mails it, or writes an advertiser in appreciation of his advertising patronage, and a contract we had not expected to hold is renewed. The reader is the gainer. The converse is true. Occasionally an advertiser drops out because he has not been impressed with the fact that his advertising has paid.

How many of our readers have any idea of the number of book publishers, or manufacturers of drugs, for instance, with which they have dealings, advertise with us? How many are aware of the fact that certain concerns with which they have dealings could not buy advertising space in the JOURNAL at any price? We have much material on hand that should be published. Some of it cannot be published if our advertising patronage is not increased, and still more of it will fail of publication unless we can at least hold the patronage that we have. Does that mean anything to our readers? We can get the business but we cannot hold it. It is up to the reader, who is at the same time the owner, to do that.

"Having Some Fun with the Chiropractors."—Under this title, *Lloyd's Magazine*, a new Texas publication, begins an article on the Medical Practice Act in Texas, and the relation thereto in particular of the chiropractic cult. The article begins in the February issue, just out, and we desire to lay editorial emphasis on the importance of the article, if it carries out its promise to go to the bottom of the question, and to express in this manner our appreciation of the service to be rendered suffering humanity in Texas. It is well understood that any exposure of chiropractic the JOURNAL might make would be handicapped by suspicions of ulterior motives and selfish interests. Likewise, our efforts would be directed to a class of readers who are already aware of the fallacy of chiropractic and the dangers incident to its practice. Therefore, outside help in such missionary work as this is always acceptable, and to be appreciated if intelligently put forth.

In an interview with the editor of this publication, we were pleased with his good intentions and his desire to serve the public rather than to merely dish out a bit of sensationalism. The editor is a longtime newspaper habitué, and has imbibed deeply of the journalistic spirit. It is believed that he may be depended upon to put his publication over and make a success of the enterprise. It is to be hoped that he will, which we are prompted to say both because of our appreciation of local enterprise and in the interests of the public health.

The article is not essentially sensational, which is to be appreciated. We feel that a straightforward, reasonable discussion of the problem will be more effective than the usual scorching, scathing denunciation. The first article concludes with the following statement:

> "This is not an attack on chiropractic. It is an appeal for the enforcement of our state law, passed after long study of the question, careful investigation and a full hearing of the case.
>
> "If a chiropractor wishes to practice in this state he is at liberty to do so, provided he gets a license. To get a license he must conform to the law. Otherwise he is in an illegal business and a threat to the community.
>
> "It is the plain duty of the state to protect the sick, prevent the spread of contagious diseases, and safeguard the health of its citizens. It has the law. It is up to the officials to enforce it."

The Matter of Federal Tax Reduction is receiving the immediate and earnest consideration of all hands and the cook, just at this time. There is considerable difference of opinion between Mr. Mellon of the Treasury, and Mr. Garner of Texas, concerning the matter. We have been urged from various and sundry quarters to insist upon it that Mr. Mellon's plan be adopted by Congress. We have passed the buck to our Texas member of the National Legislative Council, Dr. Bledsoe, and Dr. Woodward of the Legislative Bureau of the A. M. A., as to all such matters as that, but we feel that we should say something emphatic in regard to three points of vital interest to the medical profes-

sion at this time, whatever plan of tax reduction is adopted by Congress, in the face of the universal demand for such legislation and the further fact that there is money in the treasury.

We were a member of the Reference Committee of the House of Delegates of the American Medical Association which finally put its stamp of approval on the Harrison Narcotic Act and made it possible to pass that meritorious measure (which has since been made so unnecessarily aggravating to the medical profession), and we well recall the many assurances by friends of the measure, in and out of Congress, that the dollar tax was imposed only because in no other way could such a law be made effective, and under no other guise could this invasion of state's rights be justified. Feeling the force of the argument that the medical profession should stand in the forefront of the battle in the war against narcotic addiction, we agreed to an imposition for the greater good of the greater number. We have not been sorry, but we have been sad that we did such a thing. In the general demand for tax reduction, we desire to let it be known that the medical profession stands as a unit for the reduction of the now unnecessary and always unjust tax imposed by the Harrison Narcotic Act, to the nominal sum at first agreed to. It is difficult to see how a reasoning, reasonable Congressman can evade the argument put forward by *The Journal of the A. M. A.*, under date of January 26, which we quote:

"*Arguments Against the Continuance of the War Tax under the Harrison Narcotic Act.*—In protesting against the continuance of taxation under the Harrison Narcotic Act at the rate fixed by the Revenue Act of 1918 as a war measure, three dollars a year, it should be made clear that the medical profession is not protesting against the Harrison Narcotic Act itself, nor against such taxation under it as may be necessary to give the federal government jurisdiction. The Harrison Narcotic Act originally fixed a tax of one dollar a year, which was deemed sufficient to secure federal jurisdiction, and of that tax no complaint was ever made. Any tax in excess of the minimum amount necessary to give federal jurisdiction is essentially an occupation tax on the physician and as such represents a discrimination against the medical profession, since federal occupation taxes are not imposed on other professions. So far as this tax may be passed on by the physicians to their patients, it is a tax on the sick and injured, falling on them because they are sick and injured. The tax collected under the Harrison Narcotic Act is paid into the general revenues of the United States, and does not go directly toward the enforcement of the act. The amount collected under this act from all sources is largely in excess of the amount expended for the enforcement of the act—in 1922, for instance, $610,311.13 in excess of the amount expended during the same year. In any event, however, there is no reason for imposing on the medical profession any greater part of the cost for enforcing the law than is imposed on any other group in the community, for the law is enacted for the benefit of the community and not for the benefit of the medical profession."

There are two other items of importance to the medical profession that should receive attention at our hands, at this time. Perhaps it will save space and present the case to better advantage, if we quote again from *The Journal of the A. M. A.* (as above).

"*Argument in Favor of the Deductibility of Traveling Expenses and of the Cost of Postgraduate Study, as Expenses of the Practice of Medicine, in Computing the Physician's Income Tax.*—In protesting against so much of the present income tax law as is construed as denying to the physician the right to deduct, in computing his federal income tax, expenses incurred in attending meetings of medical societies and in postgraduate study, the following facts should be borne in mind. The present law provides that the physician, in common with all other business and professional men, in computing his net income, may deduct, 'all the ordinary and necessary expenses paid or incurred during the taxable year in carrying on any trade or business, including a reasonable allowance for salaries or other compensation for personal services actually rendered; *traveling expenses (including the entire amount expended for meals and lodging) while away from home in the pursuit of trade or business;* * * *' The Commissioner of Internal Revenue has ruled, however, that a physician who is away from home in attendance at a meeting of a medical society or while pursuing postgraduate study is not away from home in the pursuit of his profession and that the expenses incident to such travel and study are not ordinary and necessary expenses of the practice of medicine. Such expenses are regarded by the commissioner as merely personal expenses, such as are covered by the provisions of the income tax law which allow to all taxpayers, without regard to their callings or to the necessity for travel imposed by such callings, certain exemptions to cover personal expenses. Obviously, this ruling ignores the fact that such expenses arise in the case of a physician as incidents of his professional work.

"The commissioner's interpretation of the law in this respect is out of harmony, too, with the provisions of the law generally as they relate to medical practice. The physician may, for instance, deduct as professional expense membership dues paid to medical societies, but the ruling complained of penalizes him if he undertakes to make such a membership effective by attending the meeting of such societies. The incongruity of the ruling is further shown by the fact that if a physician travels from one place to another to consult with a fellow physician regarding the treatment of a single patient, he can deduct the expenses of such travel, whereas, if the same physician travels between the very same places to confer with a hundred of his fellow physicians in consultation concerning the treatment of patients generally, he cannot deduct his expenses. If a physician travels from one place to another to examine one patient in order to apply the knowledge and skill thus acquired for the benefit of that patient, his traveling expenses are deductible; but if he travels from one place to another to engage in postgraduate study of many patients in order to make the knowledge and skill obtained available to the entire community which he serves, he cannot deduct traveling expenses, but must pay an income tax on them.

"Obviously, to discourage meetings of medical societies and of postgraduate study, as the prevailing construction of the Revenue Act of 1921 now does, is poor public policy. Meeting in such societies and

in the course of such study tends to conserve and promote public health. It tends, too, to increase federal revenues by increasing the earning capacity of the physician. Moreover, by bringing together physicians from various parts of the country, it tends to break down local prejudices and to encourage broader national unity and patriotism. Such travel ought, therefore, to be encouraged, not discouraged.

"Argument in Favor of the Reduction of Tax Rate on Earned Income.—The provision of the proposed revenue law that makes the rate of taxation on earned income less than the rate on income from investments, speculation, etc., is new. The benefit thus conferred is to be extended to all taxpayers with earned incomes, and the physician is to be benefited merely as a member of the income-earning group. The concessions in favor of earned incomes is based on the fact that taxation on an earned income is taxation on the productive activity of the taxpayer and tends to discourage such activity and that, since the productive activity of the taxpayer may be diminished or destroyed at any time by personal disability and is certainly destroyed by death, it is entitled to special consideration in the determination of the tax rate. The concession in favor of earned incomes has been recommended by the Secretary of the Treasury, but unless those who are to be benefited by it unite in an effort to make their position clear, the secretary's recommendation may not receive favorable action by Congress."

State and county societies should adopt resolutions, and send copies of them to the Committee on Ways and Means of the House of Representatives, and the Committee on Finance of the Senate. This can be best done through an interested Senator or Representative in Washington. Copies of such resolutions should be sent also to all Senators and Representatives from the state from which the request and protest comes. Individual physicians should write to the Senators and Representatives who represent them in Congress, acquainting them with the views of the profession regarding the situation. This should be done immediately, as action on the pending bill will probably be not long delayed.

First Aid to the Injured.—During the war, much attention was given to the teaching of first aid to the injured. As a result, notwithstanding the soldier is taught not to stop in the midst of battle to render first aid to his wounded comrade, many lives were saved and much suffering avoided. The prohibition against rendering aid in the heat of contest does not apply, of course, to the interim and to conditions where the rendering of such aid would not take from the firing line an active rifle. Every soldier, almost, with sufficient intelligence and education to comprehend the teaching, became a fairly good sanitarian and a very competent "jack-leg" doctor—at least, so far as first aid was concerned. It seems that the industries have to a certain extent taken over this work since our big army was disbanded. Of these, we know of none that has acted more intelligently and effectively in this particular than the telephone companies, particularly the Southwestern Bell Telephone Company, the one with which we come in contact here in Texas. We have personally been a witness and a judge, in two of these contests. We have been surprised that they have attracted such little attention. It would seem that at least the medical profession would be interested. Our conclusion is that the medical profession does not know anything about it, except those who have been intimately connected with the teaching and the judging.

These contests are eminently practical. First aid is taught in each of the larger telephone centers, and teams are organized. These teams hold contests among themselves locally, and the best teams are selected for district and then statewide competition. In the contests accidents are assumed to have happened, and the teams are given full descriptions thereof and instructed to proceed to render the aid that a lay bystander should render pending arrival of the doctor. Live subjects are used, and the procedure is in accordance with assumed conditions. Judgment is rendered after a fixed schedule of percentages, which enables the judges to eventually pick the winners. And it may be said here, that some of the bandages applied and the splints fixed would do credit to a practicing physician.

The full importance of this teaching is not at first apparent. To render first aid to a fellow workman only would be sufficient, perhaps, but there is a wider application than this. Telephone company employees are scattered far and wide, and they are frequently not only themselves engaged in a dangerous occupation, but they are where there is danger to people other than employees of their company. They are instructed to render aid to whomsoever may need it. This extends the possibilities immensely, and places the public to that extent under obligation to the telephone company. Perhaps we should mention the fact, in this connection, that these employees are at the same time urged that they are at no time, except in the emergency, to attempt to take the place of the physician.

We might take this occasion to say a word of appreciation of the Bell Telephone Company, and its medical adviser, our own fellow, Dr. M. E. Taber of Dallas. This company maintains a benefit fund for the care and protection of the health, lives and limbs of its employees. In Texas, at least, it does not contract for medical and surgical service, for a stipulated sum or on a competitive basis. Instead, it assumes to purchase the best service available under the circumstances, paying standard fees therefor. We have no disposition to criticize the industrial concerns which

care for their employees after other plans, at least not at this time, but we do feel that the plan of the telephone people is distinctly to the advantage of the medical profession as a whole, and most certainly it is to the advantage of the employees as a whole.

"A Naught's a Naught and a Figger's a Figger."—While we are praising the Telephone Company, and will again insist upon it that it is entitled to praise at our hands, we feel that it would not be amiss to gently and kindly voice a criticism. In fact, the way we feel about it, we could omit the gentleness if not the kindness. We now have no reference to the faults of human nature that seem to come so readily to the surface in the telephone service, such as inattention, impatience, temporary imbecility if not insanity, and the like. They are to be taken as a matter of course, and if we have to be just about it, there is less of that sort of thing than we might expect, under the aggravating circumstances constantly surrounding conversations with an inanimate thing (we now have reference to the telephone and not to the operator).

What we mean to object to is, the requirement that we say "O" (the letter) instead of naught (the figure). We have never seen nor heard of any reasonable explanation of this fad. We have an idea that it is merely a custom that has become prevalent because of the typical carelessness and universal perversity of the average American. The telephone people probably found themselves trying to interpret a variety of calls, first using the letter then the figure, for the cipher. Probably it was deemed an advantage to agree upon one or the other, and the company adopted the designation most commonly used. At least this is the way we have personally figured it out in our attempt to justify our friends, the Telephone Company, in adopting a rule that is not only wrong but inexpedient. Of course, we are told that we do not have to use the letter if we do not want to, and that the operator is instructed to correct us when we do use the figure instead of the letter, but to go ahead and give us the number just the same. That may all be true, but we have personally been aggravated on more than one occasion by the persistence of the operator in trying to make us say it her way, and more than once we have been flatly denied the connection we asked for. In one instance, the manager of an exchange, to whom we complained of such treatment, informed us that the matter was too small a thing to be complained of, and that we were all wrong. He intimated that we ourselves were rather small. Our objection is not altogether that the thing is wrong. As a matter of fact, the average operator will often mistake the letter O for the figure 4. Anyone who doubts that need only to try it on his phone. It would be impossible to mistake the cipher for any other figure.

Who wants to join our "Naught's a Naught and Figger's a Figger Club?"

Misuse of Public School Buildings.—In many communities, particularly in the rural districts, the public school buildings are used for a variety of purposes, all presumably of common interest. One of the problems of school authorities has long been the waste represented in the extensive periods of disuse of school property. It has been urged that these buildings could be made community centers, in every sense of the word. There are technical reasons why this may not be done to the extent desired, but that is another matter. The attempt to salvage a part of the school overhead for the good of the community is to be commended, provided there is some one with judgment and foresight to distinguish the good from the bad, and the beneficial from the hurtful, for, as "all that glitters is not gold," so all that *sounds* scientific is not worthy of consideration. The Englishman who carried back to England a boat-load or so of iron pyrites, secured for that innocent sulphide the name of "fool's gold." That Englishman was not to blame for mistaking this metal for gold; but he was to blame for depending on his own judgment in such matters, not being an engineer, a chemist or a metallurgist. So it is with the average school board, which must be depended upon to separate the chaff from the wheat on the threshing-floor of science, and distinguish in the field of medicine and the public *health* between the fool's gold of quackery and the pure gold of scientific medicine. It may not be to blame for not knowing, but it is assuredly to blame for not calling in those who do know.

We are moved to these remarks by the experience of the school board in one of our most prosperous East Texas cities. As it happens, this particular board is of rather unusual quality in its personnel, and the two schemes we have in mind were killed a-borning. In one instance, a traveling faker secured the use of one of the schoolrooms for a lecture on diet and health, making out a very good case for himself and his enterprise. He conducted a sort of magic-sleight-of-hand-mind-reading show, which he urged was for the purpose of attracting attention. The school board "smelled a mouse," and very much to the chagrin of the enterprising individual concerned, withdrew permission to

exploit the school-children of that city, and through them, their parents. On another occasion, a representative of this same school board granted a nurse-assistant of a local physician the right to deliver free lectures at one of the schools. She was to examine the pupils, absolutely free of charge, and chart the abnormalities found, and her chief was to prescribe for them, also without charge. This seemed to be in line with the procedures in the more modern schools throughout the country. The trouble happened to be, that the local physician was a sort of double-header, M. D., D. C., etc., etc. The nigger was just a bit too large to be covered by the small woodpile, and the school board speedily yanked him from under. The two aborted enterprises under discussion were being well advertised when the accident occurred.

In another community, it seems there are to be held chiropractic clinics in one of the churches. At least, newspaper dispatches are to that effect. This is another question, of course, the church being the private property of individuals, in contrast with the fact that schoolhouses belong to the public, but it is hardly less discouraging that religion should be thus prostituted than it is that education should be made the means to such unholy ends.

We commend both situations to the thoughtful consideration of our readers, and urge that they exert their individual and collective influence to the correction of an evil which is potent of harm.

Another Victory for Vaccination.—Newspaper dispatches are to the effect that the school board of Houston has recently been victorious in the local courts in its demands for vaccination of pupils against smallpox. At least, the school board has won in the lower courts, and in view of the numerous decisions to the same end handed down by the higher courts, it would seem that except for the desire to antagonize and worry people, the antivaccinationists should call off the fight. It seems that Mr. Fred W. Turner, who will be recalled as a rather contrary member of the 38th Legislature, contrary so far as the demands of the medical profession for protective medical and health legislation were concerned, objected to the vaccination of his son, and went to court about it. The court first ruled that the school board could not require vaccination, but changed the ruling when it was pointed out that the vaccination requirements was only one of numerous rules adopted by the board for the control of the schools, and that if it could be set aside, so could the others, thereby effectually nullifying control. Anyone who objected to any regulation of the board, could thus have it set aside.

According to newspaper reports, the judge who rendered the decision was not, to say the least of it, in favor of vaccination. He is credited with saying that in his opinion the law was unjust and discriminatory, and that his legal opinion was contrary to his conscientious scruples. The court did not believe in forcing a child to submit to such an operation as vaccination, with all of its dangers, as evidently demonstrated by the anti-vaccinationists. There *are* judges who hold such views.

Mr. Turner, in an interview in the *Houston Post*, the general attitude of which towards the medical profession will be recalled by many of our readers, advanced the following specious argument against vaccination and the requirement of vaccination by the school board as a precedent for attending the public schools, which is quoted as another example of the abnormal reasoning faculties of the astonishingly large group of people who persistently contend against demonstrated fact:

"First, let it be understood that at no time, past or present, have I advanced one desire to prohibit or to compel any person to submit themselves or their children to vaccination, nor would I undertake to do so or support any other person in so doing. I oppose the vaccination of my children, because, after extensive study of the history of vaccination and its effects, I am convinced that it is not a proper practice, but I recognize at the same time that there are many, who for reasons of their own, consider that it is a good practice. A law that would deny those of its use would be most unjust, and it is most assuredly true that a law that forces its use on one opposed is likewise unjust. I ask that the pro-vaccinator who may read this letter consider this point carefully. If it is unjust to prohibit, is it not an equal injustice to force? Now, this would not be true if it were not that the pro-vaccinator emphatically states, and (to their own satisfaction) prove that a vaccinated person is free from the possible contagion of the filthy disease of smallpox, and if it is a correct contention, as many good and intelligent people are convinced, then by what common sense reasoning are you going to assume that an unvaccinated person is in any respect a dangerous element in the school or out? To say that he is, is to condemn your best argument, that is that vaccination is a preventive. All that I have requested of the city, school trustees and district court was that I be permitted to have my opinion and you to have yours, to which we are both, as free Americans, entitled so long as we do not interfere with each others rights as free Americans. Is there any malice, prejudice or lack of reason in that request? If you choose to protect yourself by the use of your method, why will you seek to deny me the use of mine, while 'protected from my apparent folly?'

"Judge Harvey decided the case in favor of the school board, properly so in view of the law as laid down in other cases, but in so doing he stated that in his estimation, after hearing the evidence as submitted, that the law was proper as a legal matter, but that it was unjust and discriminatory in his esti-

mation and his legal opinion was against conscience, and he did not assume the responsibility of forcing a child to submit to an operation that carried with it the elements of danger as shown to exist in vaccination, and for that reason continued the temporary injunction in force pending further action."

The data from which Mr. Turner evidently secured his information, was probably the usually distorted and fabricated variety put out by the critics, and was probably without the benefit of any fact whatsoever. At least, our experience with such people would lead us to that conclusion. His argument that the individual who is protected by vaccination should not object to the presence in the school of smallpox because of said protection, is, of course, beside the point. To begin with, it is recognized that vaccination is not at all times a perfect protection. Immunity is not always absolute even in the beginning, and it generally decreases as time goes on. A partial immunity may protect against a great majority of assaults, but be overcome by an unusual and exceptionally virulent infection. But the school board looks at the matter from another angle. It is a loss of money to teach school children who are likely to be detained from school for any considerable length of time in any considerable numbers by preventable diseases, merely because they do not choose to protect themselves. The school board would have the right to object to the presence in the school of blind pupils, for instance, when there are no facilities for teaching the blind, or children of such reduced mentality as to make it unprofitable to attempt to teach them outside of specially organized classes.

This is another instance of the need of a vigorous publicity and educational campaign, such as that at present being organized by the State Medical Association.

The International List of Causes of Death. —The Bureau of the Census has revised the International List of Causes of Death, now for the sixth time, and is placing in the hands of physicians copies in vest-pocket form, in order to make them readily and easily available for those who must determine and report upon this important item in vital statistics.

This little book cannot be too urgently called to the attention of practicing physicians. We give it editorial prominence because of its importance. Statistics are notoriously dry and uninteresting, and as a rule appeal only to certain of us who are inclined that way. As a matter of fact, statistics pertaining to death registration are intensely interesting, at least to physicians. The trouble is, physicians too frequently will not take the trouble to look them over. How necessary it is that deaths be properly reported (and by the physician instead of the family or the undertaker, as too frequently is the case in Texas, because of our vital statistics law) will be readily apparent upon casual perusal of the undesirable terms included in the list. For instance, one would think, off hand, that "abscess of the brain" would be sufficient in a case of that character. Not at all. It is of importance to know to what the abscess is due, and perhaps its exact location. Also, "Bright's disease, acute," might seem sufficiently specific to meet the requirements of the most fastidious statistician. Not so. It is necessary to know, if the information is to serve to the best advantage, whether the disease is a complication or sequela of some other disease or abnormal condition. If this may not be known, it is important to so state. There are many such undesirable terms.

The State Medical Association stands pledged to the State Board of Health to foster the accurate and uniform reporting of births and deaths, and it is time that we begin to give consideration to the importance of these reports and the necessity of making them.

The following pertinent remarks on the subject of reporting deaths are taken from the publication here referred to:

"Human life is sacred. When a human being passes out from our life it is important that an immediate record be made of all the essential details of the event—an immediate record; because it is well established by years of experience that an accurate record in all cases can not or will not be made unless the law requires it to be made at once. Such a record should include the facts relating to the exact time and place of death, the full name, age, sex, color, civil condition, occupation, place of birth, and other details relating to the individual, and also, a very important requirement, a statement by the attending physician, or by the health officer or coroner, of the cause of death. These facts may be of the greatest legal and social importance.

"1. Certificates of death, or certified copies, are constantly required in courts and elsewhere to establish necessary facts;

"2. Pensions or life insurance may depend on proper evidence of the fact and of cause of death;

"3. Titles and rights to inheritance may be jeopardized by the failure of records;

"4. Deaths should be registered that public health agencies—national, state, and municipal—may know the causes of death and act promptly to prevent epidemics;

"5. Deaths should be registered promptly that the success or failure of all measures attempted in the prevention of disease may be accurately determined;

"6. Deaths should be registered that individual cities and localities may learn their own health conditions by comparison with the health conditions of other communities and determine thereby the wise course of public health activity;

"7. Deaths should be registered that homeseekers and immigrants may be guided in the selection of safe and healthful homes."

THE STUDY OF NEPHRITIS.*

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At the present time, when our thoughts are constantly directed to a careful search for the causes of disease and the application of sound measures to correct and eradicate the underlying etiological factors, the study of nephritis looms up as one of the great unexplored fields. By "nephritis" I mean that restricted class of diseases originally described by Bright, and not to locally injured kidneys from various invading organisms. We are no longer content to label a patient an essential nephritic, and condemn him to the trash heap of incurables. We search diligently in each case for the underlying factors, in the hope that their removal may arrest the process and leave kidneys that are capable of performing their functions through a fairly normal life. That we are able to do this in some cases is well established and should point the way to success in others. I know of no reason to think that the kidneys do not possess the reasonable recuperative powers enjoyed by other organs, and that when a given infectious process has been removed they may not go on performing their functions in a satisfactory manner, even though some permanent damage has been sustained.

In the military service, especially, are we called upon for a careful study of the individual, in an effort to separate the true Bright's disease from the transient and temporarily injured kidneys, and the object of this paper is to detail in a very brief manner a routine method of study which has been helpful to us, and to stress the points which seem most valuable in diagnosis. It is realized fully that we cannot practice medicine by "rubber stamps," and that set formulae for diagnosis and treatment are not possible, in that they destroy individuality and sooner or later patients are simply shunted to this or that section and the crank turned, as it were, with the expectation that collected reports will spell out the diagnosis, prognosis and treatment. The following outline is adopted for convenience in assisting the study, but above all comes the constant observation by and application of the clinical senses of the physician himself. Much of the laboratory work noted is not needed in every case except for completeness of study, and it rests with the physician himself to what extent he will use various procedures and whether or not he may feel it wise to go further in any case. None of us are infallible and I, for one, find a routine very helpful in insuring that nothing of importance has been overlooked. This is especially advantageous in institutions required to handle large bodies of patients expeditiously.

When a patient is admitted to the hospital to be observed for nephritis, the following routine is initiated, and elaborated upon as the case demands:

(a) Careful history in detail.

(b) Complete general physical examination.

(c) Ear, nose, throat and dental survey for foci of infection. In cases showing albumin and no casts, a genito-urinary survey is requested, for evidence of genito-urinary tract infection.

(d) A two-hour specific gravity test followed by test meal if impaired function is shown by fixation of specific gravity, nocturnal polyuria, etc.

(e) Test meal similar to the Mosenthal (if indicated), to determine water, salt and nitrogen output.

(f) Blood chemistry, to show urea nitrogen and chlorides.

(g) Weight (repeated weekly).

(h) Blood pressure (repeated at least weekly).

(i) Phenolsulphonphthalein excretion (repeated weekly in known cases).

(j) Urea concentration test (only when desired for completeness).

(k) Complete blood count (weekly).

(l) Examination of the retina and vision, occasionally.

(m) Short weekly history of progress.

1. The history is taken in minute detail, noting especially past infections, such as tonsillitis, scarlet fever, typhoid, pyemic conditions, etc., in an effort to obtain some etiological factor which might form the basis of study and treatment. Too much stress cannot be given this one feature of the work; if done well, it furnishes our *greatest single help.* When I am able to find no apparent cause for the trouble, it is my policy to *rewrite* the history in greater detail, and I rarely fail to uncover some helpful fact. One instance will illustrate: A young married woman developed an acute nephritis during the course of tonsillitis. The condition cleared up well to a certain point but slight evidence of chronicity remained. In the history it was noted that at the age of twelve she had malarial hemoglobinuria; that during her first pregnancy she had convulsions. There was no other illness. Since she came from a

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swampy region the diagnosis of hemoglobinuria was taken at face value. Her failure to entirely recover, however, prompted me to spend two hours going over the history again. It appears that when she had the so-called hemoglobinuria her hands, face and feet were much swollen; that her urine was scanty, high colored and appeared to have some blood, but was not actually a pure red; that the doctor who prescribed for her gave the same medicine he had given to a "darky" on her father's place, known to have "dropsy." She further stated that she had just recovered from severe tonsillitis. Since the "hemoglobinuria," she has constantly been below par in health, and cannot recall ever "sweating." It appears, therefore, evident that this so-called hemoglobinuria was in reality an acute nephritis, and that the patient sustained permanent damage to the kidneys at that time. It was decided to remove the tonsils as a precaution against future damage, and to our surprise the left tonsil, although outwardly healthy, contained a small abscess. At the end of eighteen months the patient appears to be in better health than for many years, although there are occasional traces of albumin, and now and then a hyaline cast. Kidney function is just short of normal, as shown by lack of full variation in specific gravity tests and dye tests.

2. The physical examination consists, first, of a careful general examination to obtain gross evidence of disease, and then reference to specialists, who are requested to search for foci of infection. The nose, throat, ears, sinuses, teeth, tonsils and prostate, are given special attention, and in any case of doubt *x*-rays are resorted to. In one case the patient came to the hospital with a severe acute nephritis and a discharging ear. The assumption was that the otitis media was responsible for the kidney condition, but after the ear had apparently healed the patient continued to show evidence of kidney damage. Every field was exhausted, apparently without avail, until someone suggested *x*-ray of the mastoids. The picture showed obliteration of the mastoid cells and what appeared to be evidence of considerable damage on both sides. About six weeks later, the ear again discharged pus, thus establishing the chronicity of infection in this region. Operative procedures were considered but not accepted. It is a question whether or not double mastoidectomy would have been wise, but certainly it appears as a sensible therapeutic measure in this case and may have resulted in ridding the patient of all future danger. I personally am convinced that a definite cause for this man's nephritis exists in his mastoid cells and that radical surgery theoretically is indicated. However, we are loath to recommend major surgical procedures of this kind on no more than a reasonable guess as to their necessity.

We have found one case where the teeth reasonably may have been blamed for a chronic nephritis with oedema. In any number of cases, without symptoms of disease, fairly frequent albumin and casts have disappeared following the extraction of abscessed or otherwise badly diseased teeth. I am not prepared, however, to suggest that such cases would have eventuated in actual Bright's disease. Functional tests of these kidneys were normal. Just what part abscessed and otherwise diseased teeth play in producing chronic nephritis, I am sure none of us know at present. We can neither prove nor disprove such relation as yet.

No case of so-called orthostatic albuminuria has been seen, and we are beginning to doubt its existence. When albumin without casts is seen, a very careful search of the lower genito-urinary tract is made for cystitis, pyelitis, prostatitis, etc. These conditions do not have to exist as disease entities, to be sources of trouble. Frequently albumin is present in perfectly healthy persons, who present no symptoms. In these cases an antecedent gonorrhea is often noted in the history, and on careful examination slight evidence of this infection remains. In the examination one must search most diligently and continuously if he expects to be rewarded. Laboratory help cannot possibly replace work done to this point, and such work cannot be intelligently requested or interpreted until this preliminary study by history and general examination has been made.

3. Daily morning urinalyses are done in all cases except on those days when twenty-four hour tests are made. In fact, the latter tests furnish so much more information that they are relied upon largely to estimate the functional condition of the kidneys. The two-hour specific gravity test suggested by Mosenthal, and *done without the meal,* is now a standard. The patient makes no change in his diet and is required to empty the bladder at 8 and 10 a. m., and each two hours thereafter, to include 8 p. m. The specific gravity is taken at once, and the amount passed is measured, both items being recorded opposite the hour passed. The day samples are saved in one bottle labeled "day urine." From 8 p. m. to include 8 a. m. next day, the night urine is saved, its specific gravity and quantity taken. This, with the day urine, is sent to the laboratory for estimation of albumin, sugar, total solids, urea output, blood, pus and casts. About ten c.c. of chlo-

roform per liter is used as a preservative, and the bottles are kept tightly corked at all times. It is well to note that specific gravity readings should be done very carefully, reading from below the level of the urine and at the time urine is passed. If this cannot be done the urine should be warmed uniformly to 40 degrees C.

The abnormal findings are as given by Mosenthal after his test diet, and will be recited for convenience:

1. Nocturnal polyuria of greater than 750 c.c. (failure to concentrate night urine).
2. Fixation of specific gravity (variations of eight to nine points in different samples is considered normal. Any less is looked upon as evidence of functional injury).
3. Lack of variations in amounts passed (normally a variation of as much as 250 c.c. is found. Small amounts in the 6 and 8 p. m. samples is considered evidence of renal fatigue).
4. Ratio of day urine to night urine of 4 to 1 or 3 to 1, unless the intake is low (500 c.c. or less). The night urine should be small in amount, high in nitrogen (1% plus) and have a specific gravity of at least 1018. *The first signs of impairment are shown as nocturnal polyuria and low specific gravity with low nitrogen.* Marked impairment is shown by fixation of specific gravity, total and nocturnal polyuria, low nitrogen and low salt output.

When evidence of disease is shown by this very simple test (which can be carried out by any intelligent patient), the next step is to give a measured meal, similar to the Mosenthal meal, and to compute accurately the output of water, salt and nitrogen, as compared to the intake. We prefer, however, to permit the patient to remain on the diet most suitable to his condition and compute its elements, rather than to use the diet of Mosenthal. Invariably patients have complained about the large amount of salt, and frequently they are unable to eat the entire diet, necessitating some difficulties in computation. Furthermore, I found one patient who was distinctly worse after partaking freely of the diet. The simple two-hour specific gravity test is, I believe, one of the most valuable and easily applied functional procedures we have at hand at the present time, and it is at the same time considerably more delicate than the dye test. It will give all the information that the test meal will give, except actual figures on salt and nitrogen output, and if one will obtain total solids and urea output he will have all he needs for practical purposes. For a long time we used test meals freely, and had the blood chemistry done for the application of the Ambard coefficient, but finally abandoned this as being too artificial for practical value. If the test meal is desired reference is made to the works of Mosenthal or Christian.

In known cases, and occasionally in doubtful cases, blood chemistry offers very valuable information and confirms other work. If a test meal has been done and chlorides or nitrogen are shown to be retained, they should be found in the body fluids. Blood urea and chlorides are the two elements estimated, and they give all the practical information needed. We should not presume to diagnose nephritis by this means alone. Long before blood changes are of much value we can obtain as much information by simpler means. Blood chemistry certainly makes for better work and should be resorted to for such additional help as it gives, but for the average busy man it does not appear essential.

It is important to do the phenolsulphonphthalein excretion test very carefully, injecting precisely one cubic centimeter. The drug is injected into the deep muscles of the back after the patient has voided, and drunk two glasses of water. A uniform hour of the day should be selected to run the test, and precisely the same technique should be used in all patients. In this way there will be fewer variations which are not understood. Our custom is to save the urine at the end of one, two and three hours. Normally the dye output is as follows: First hour, 50% to 60%; second hour 10% to 20%, and third hour, traces.

Delay in excretion is the first evidence of impairment. The amount excreted in the first hour approaches that of the second, and larger quantities are found in the third hour. If there is considerable delay the dye is often found as late as the tenth hour. This procedure is not very reliable in acute nephritis, particularly during the elimination of oedema. Its elimination is supposedly by the same process as that of the nitrogenous waste products, and is an index to the damage of that function of the kidneys in chronic nephritis without oedema. A minimum of three tests seems wise in doubtful cases. In the known cases weekly estimations are made to assist in keeping note of the patient's condition. Only one patient evidenced discomfort after its use. This patient had only one kidney, in which kidney there was a severe pyelo-nephritis. Just why it should have caused pain is not understood. We have given many hundreds of injections with no other discomfort than that associated with introducing the hypodermic needle. It is hardly necessary to say that phenolsulphonphthalein is not to be relied upon too greatly

in the diagnosis of nephritis. It may be fairly normal when the kidneys are severely damaged, and may show diminished output in normal cases. However, such variations have not been noted constantly, and by repeated tests, readings that are in accord with other findings will be produced.

The urea concentration test parallels the phenolsulphonphthalein test in every particular and is, by some, considered more delicate. The dye test is preferred, however, because of its convenience and general use, permitting comparison with the results of other workers. One of my patients developed uremic convulsions the day after the urea was given. The test consists of giving 15 grams of urea in 100 c.c. of water flavored with orange juice, one and one-half hours after a breakfast of two pieces of bread and a cup of coffee. Incidentally, it is not a pleasant drink. The patient voids at the end of one hour, and again in two hours. The urea is estimated in the second hour specimen by the urease method, and should normally be as much as two per cent. Damage is indicated by deficient excretion.

The following additional items should be noted on admission and at least weekly intervals thereafter: Weight; blood pressure; complete blood count, and a short history of progress.

The diagnosis must finally rest on the entire clinical picture and not on a single criterion. It is just as important to diagnose the type of the disease as the disease itself, for after all we are trying to treat and cure sick people, and the classification is simply the grouping of available facts. The classification we have adopted for clinical purposes is that of Christian, as given in Vol. III, Oxford Medicine, as follows:

1. Acute nephritis,
   (a) Subacute nephritis.
2. Chronic nephritis,
   (a) with oedema,
   (b) with hypertension, or
   (c) mixed or intermediate types.
3. Vascular hypertension, progressing into chronic nephritis.
4. Renal arterio-sclerosis, progressing into chronic nephritis.

I have some difficulty in classifying cases which appear to be early chronic nephritis without oedema, but also without hypertension. Frequent surveys of troops oftentimes permits of finding disease in its very incipiency, and it may be that we were fortunate enough to recognize these before vascular changes of any note had occurred. However, more time is necessary to confirm this surmise.

Little can be said regarding treatment, except to sum up. It is chiefly concerned with: (a) Removal of cause; (b) rest and proper diet; (c) avoidance of injurious medication. (Diuretics are usually of no value in acute nephritis, and are frequently dangerous); (d) prolonged rest, to permit a complete return to normal, and (e) training the patient in detail as to diet and urinalysis.

The following cases are presented, not only because of their individual interest but to illustrate some very definite findings from the various tests mentioned above. For obvious reasons, only the essential findings are given.

CASE REPORTS.

Case No. 1.—Age 23, mechanic, married. Admitted January 26, 1922, with a diagnosis of active pulmonary tuberculosis. Had measles at 8, mumps at 15, and malaria at 16. While in France in 1917, had pneumonia and severe empyema, followed by many months drainage. Had gonorrhoea in 1916, and syphilis in 1918, both of which were well treated. Has been unable to perform any work since the attack of empyema. His father states that two additional operations were done because of failure to recover. Complains of vomiting; swelling of the body, feet and legs; pains in the chest and epigastrium; chills and fever for three days prior to admission; stiffness of neck and spine. January 11, 1922, the patient vomited shortly after eating chili, and very soon noticed swelling of the feet, face and legs. For three days he had chills and fever, although the temperature was not taken. Stiffness of neck and spine has been present for two or more years, and seems to grow gradually worse, making movement of these parts difficult.

Examination revealed a rather oedematous young man, with face and neck quite puffed and moderate general anasarca. The weight was 157 lbs.; temperature 98, and pulse 80. The head, face, eyes, nose and throat, appeared normal, except for the swelling. The neck was stiff and could neither be flexed, extended nor rotated. The loose tissues of neck were much swollen. The teeth and tonsils seemed normal. The chest was long and flat, with much restricted expansion. There were moist rales in the right lung, from the second rib to the base anteriorly and posteriorly. The left lung was dull in the lower half, and flat at the base. Breath sounds were absent at the base. There were moist rales below the second rib anteriorly and sixth posteriorly. The heart thrust was in the fifth space, 8 cm. from the midsternal line; the left border the same, the right border 3 cm. from the midsternal line, and the aorta 3 cm. wide. The tones were clear; there were no thrills or murmurs and no pulse deficit; pulse regular and full; abdomen large and contained free fluid; liver was 2 inches below the costal border and quite tender; spleen was not felt. There were no masses. The genitalia showed a scar at the junction of the glands and mucous membrane. The inguinal glands were enlarged. The extremities were oedematous, the reflexes normal and the spine showed fixation throughout its entire extent. The sputum was negative for tubercle bacilli. The *x*-ray showed no evidence of tuberculous infiltration, and the patient was transferred to the general medical wards January 28, as a case of acute nephritis. On January 31, without warning, the patient had five uremic convulsions. The blood pressure was 190-120. Bleeding, forced fluids and stimulation, resulted in prompt reaction. The patient was then placed on a milk

diet for two days, then a salt free, low protein diet, with fluid intake of 1200 c.c. daily. The oedema disappeared rapidly, and at the end of two weeks he was given the standard nephritic diet (see Christian, in Oxford Med. Vol. III). Examination of the chest February 15, 1922, showed his right lung to be clear, the left lung clear in the upper half, and moist rales from fourth d. s. to the base posteriorly, most intense around the area of the old empyema scars. The chest was found fixed, along with the spine, and the breathing entirely abdominal. The patient was quite thin after subsidence of the oedema. The weight was 131 lbs., and blood pressure 134-98. The impression at this time was that the patient had (1) Chronic bronchitis, following empyema; (2) spondylitis, entire spine, with fixation throughout entire extent, probably the result of chronic empyema, and (3) acute nephritis.

The Wassermann was negative; stools negative for parasites, and blood negative for malaria. The blood count showed a slight reduction in the red corpuscles, with a normal white blood count, and polys ranging from 80 to 85 per cent. The dental x-ray examination was negative for focal infections. It was noted that the patient was spitting small amounts of yellow pus, which were repeatedly found negative for tubercle bacilli, but showed abundant streptococci. The existence of a bronchial fistula was suggested, with pus still coming from the old empyemic area.

The urinary findings were as follows:

Date	24 Hr. Amt.	Sp. Gr.	Alb.	Casts	R. B. C.	Phth.	Wt.	B. B.
January 26	.....	.....	.....	.....	....	.....	.....	.....
January 29	M. S.	1,020	LCl	Rare	0	.....	157	190-120
February 1	M. S.	1,012	LCl	Few	0	.....	.....	.....
February 2	M. S.	1,011	HCl	Many	xx	.....	.....	160-105
February 4	3,450	1,010	MCl	Mod.	xx	.....	.....	.....
February 6	2,250	1,010	HCl	Many	xxx	.....	.....	.....
February 8	1,900	1,011	HCl	Mod.	xxx	.....	.....	.....
February 10	2,250	1,010	HCl	Many	xx	.....	131	.....
February 15	.....	.....	.....			1st hr. 25		
						2nd hr. 20		
						45		
February 18	2,070	1,099	HCl	Few	....	.....	.....	.....
February 20	2,650	1,011	HCl	Many	xx	.....	134	.....
February 22	2,490	1,010	MCl	Few	xxx	.....	.....	.....
March 6	.....	.....	.....	.....	....	.....	.....	148-105
March 11	.....	.....	.....	.....	....	.....	.....	140- 95
March 19	.....	.....	.....	.....	....	.....	.....	140- 90
April 1	.....	.....	.....	.....	....	.....	.....	138- 95
April 8	.....	.....	.....			1st hr. 5		
						2nd hr. 30		
						35		140- 98

Two-hour sp. gr. test, Feb. 9-10:

Time	Amt.	Sp. Gr.
10 a. m.	175	1,010
12 n.	175	1,010
2 p. m.	100	1,010
4 p. m.	175	1,010
6 p. m.	225	1,011
8 p. m.	100	1,010
Day Total	950	Day Urine
8 p. m.-8 a. m.	1,300	1,010
24 hr. Total	2,250	

Two-hour sp. gr. test, Feb. 14-15:

Time	Amt.	Sp. Gr.
10 a. m.	175	1,010
12 n.	175	1,010
2 p. m.	150	1,010
4 p. m.	200	1,010
6 p. m.	200	1,010
8 p. m.	200	1,010
Day Total	900	
10 p. m.	500	1,010
12 p. m.	300	1,010
2 a. m.	200	1,010
4 a. m.	200	1,010
6 a. m.	400	1,010
8. a. m.	175	1,010
Night Total	1,775	

On February 19 the following two-hour specific gravity test was noted:

February 19. Time	Amt.	Sp. Gr.
10 a. m.	25	1,010
12 n.	200	1,011
2 p. m.	225	1,009
4 p. m.	250	1,010
6 p. m.	200	1,012
8 p. m.	125	1,010
Day Total	1,125	
10 p. m.	175	1,010
12 n.	375	1,004
2 a. m.	245	1,005
4 a. m.	225	1,007
6 a. m.	200	1,005
8 a. m.	275	1,010
Night Total	1,335	

On April 6, the test was as follows:

Time	Amt.	Sp. Gr.
10 a. m.	75	1,021
12 n.	96	1,019
2 p. m.	50	1,021
4 p. m.	105	1,020
6 p. m.	175	1,011
8 p. m.	200	1,011
Day Total	700	
Night Total	425	1,020
24 hr. Total	1,125	

The patient left the hospital April 9, and was readmitted October 10 (1922). The weight on readmission was 130, with the blood pressure 140-97. The patient appeared unchanged since leaving, except he seemed to be recovering from a debauch. He complained of pain in the chest and cough. The chest findings were the same as before. The urine showed a slight cloud of albumin, with hyaline and granular casts, and no blood cells. The following specific gravity test was recorded:

Time	Amt.	Sp. Gr.
8 a. m.	.....	.....
10 a. m.	100	1,023
12 n.	175	1,020
2 p. m.	100	1,021
4 p. m.	275	1,018
6 p. m.	200	1,015
8 p. m.	125	1,022
Day Total	975	
Night Total	1,350	1,020
24 hr. Total	2,325	

The relation of a long pyemic process is clear in this case, yet the picture was not that of an amyloid kidney. Certainly such changes must exist but only as a part of the nephritic process. The patient left the hospital again October 18, and has not been seen since.

Note the absolute fixation of specific gravity, the total polyuria and nocturnal polyuria. By mistake the night orderly misunderstood the directions slightly and awakened the patient every two hours to get his sample, and while it may have slightly inconvenienced the patient, I am very glad it occurred, since we have a most remarkable example of complete gravity fixation.

Case No. 2.—R. B. W., age 51, colored, single, in the service 28 years, was admitted to the hospital November 25, 1921, in extreme dyspnoea and unable to lie flat. He has had measles, typhoid fever (severe, in 1898); influenza (1918) rheumatism (1917); chancre (1899), and gonorrhoea (1905). He spent 2 years in the Philippines and 9 years in Honolulu. By occupation he was a horseshoer. He drank whiskey to excess while on foreign duty. He complained of swelling of the feet, scrotum and abdomen; shortness of breath; nocturia; anginal pains, and insomnia.

In June, 1919, while on duty as cook, he noticed his feet would swell. He was relieved from this duty and recovered quickly. He was well until two weeks before admission, when his feet swelled, and the scrotum became noticeably enlarged. Soon the abdomen began to increase rapidly in size and there was shortness of breath, with a sense of fullness in the chest. *Since his rheumatism in 1917*, the patient has urinated two or three times each night. Lately the frequency has increased to four or five times. Lancinating pains over the heart have disturbed him somewhat of late. These are precipitated by yawning and are transitory. In 1917 he had a tumor over the upper sternum, for which mercury was given for three days, but no mercury before or since that time. Has had numerous Wassermann tests, all of which were negative. (This is probably correct, otherwise he could not have been an army cook.)

Examination on admission showed a short, very heavy, colored male, apparently "waterlogged" from general anasarca. He was in extreme respiratory distress, sitting up all the time, fighting for air. The lips were cyanotic. The head, face, eyes, ears, mouth and throat showed no abnormalities, except for the swelling of the face and neck. The teeth were in fair condition, but there was much gold and bridge work. There was a slight posterior cervical adenitis. The chest was well formed, and the lungs showed moist, bubbling rales throughout, most marked at the base, with dullness and faint breath sounds in the lower right lobe, indicating some fluid. Respiration was 28. The heart apex thrust was 11 cm. from the midsternal line, in the seventh interspace. The left border was 11 cm. and the right border 4 cm. from the midsternal line. The aorta was 4 cm. wide. An occasional extra systole was heard, and there was a soft systolic murmur with maximum intensity over the base. The abdomen was much distended, contained free fluid and was tender throughout. The penis and scrotum were oedematous, and there was an old scar on the left groin. The extremities were much swollen. The reflexes were all normal. The blood pressure was 260-130. The patient weighed 260 pounds.

The patient was started on digitalis, 20 m., three times daily, which was discontinued December 4, because of failure to show improvement. Magnesium sulphate was given, and efforts were made to eliminate fluid, with improvement. During the latter part of December and again in February, digitalis was again tried, with no very good results. Shortly after admission, it was planned to withdraw the abdominal fluid. The night before this was to be done, the fluid disappeared from the abdomen and the legs became almost twice their former size. Tubes were placed in the legs, and 2000 c.c. fluid drained off. On January 25, the patient was permitted to walk up stairs and gradually became bett The following is the record of blood pressures a weight:

	Blood Pressure	Wei t
November 26	260-130	26
December 13	198-140	....
January 1	190-136	....
February 2	.....	20
February 15	180-130	20
February 17	190-130	19
February 24	.....	19
March 14	160-110	18
March 21	165- 98	18
April 1	172-105	18
April 10	210-130	18
April 16	.....	18
April 28	.....	20

November 26, the day after admission, the uri contained a very heavy cloud of albumin, ma coarse granular and a few fine granular casts. R peated examination of morning specimens ha shown no essential change to the present time. Te meal, November 29, revealed a sodium chloride r tention of 2.22 gms. for the 24 hours, and a 40 p cent retention of nitrogen. Blood chemistry, sar date, showed 28 mgms. blood urea nitrogen per 1 c.c. of blood. January 28, the urea concentrati test showed, first hour, 0.9%; second hour, 0.8% (no mal 2%); third hour, 1.0%.

February 4, the phenolsulphonphthalein te showed 10 min., no color; 1 hour, no color; 2 hou faint color.

February 9-10, the specific gravity test was:

Time	Amt.	Sp. Gr
10 a. m.	30 cc.	1,013
12 n.	60 cc.	1,014
2 p. m.	40 cc.	1,013
4 p. m.	50 cc.	1,010
6 p. m.	65 cc.	1,012
8 p. m.	75 cc.	1,013
Day Total	320 cc.	
8 p. m.-8 a. m.	900 cc.	1,011

February 16-17, the specific gravity test was:

Time	Amt.	Sp. Gr
10 a. m.	20	1,010
12 n.	50	1,014
2 p. m.	40	1,010
4 p. m.	25	Q. N. S
6 p. m.	30	1,010
8 p. m.	75	1,010
Day Total	240	
8 p. m.-8 a. m.	600	1,010

Urine chemistry: NaCl retention, 3.85 gms.; nitr gen retention, 3.50 gms.

Blood chemistry, blood urea nitrogen, 30.20 pe 100 c.c.

March 16, specific gravity test was:

Time	Amt.	Sp. Gr
10 a. m.	22	1,020
12 n.	50	1,011
2 p. m.	50	1,013
4 p. m.	60	1,012
6 p. m.	65	1,014
8 p. m.	50	1,012
Day Total	297	
8 p. m.-8 a. m.	800	1,012

March 24, blood chemistry, blood urea nitroge 21.72 mgms.; creatinine, 4.61 mgms.; uric aci 2.73 mgms.; total nitrogen, 46.50 mgms.

March 30-31, the specific gravity test was:

Time	Amt.	Sp. Gr.
10 a. m.	99	1,010
12 n.	85	1,011
2 p. m.	95	1,010
4 p. m.	100	1,010
6 p. m.	125	1,010
8 p. m.	100	1,012
Day Total	604	
8 p. m.-8 a. m.	1,000	1,010

Blood chemistry March 30, was, blood urea, 26 mgms.; chlorides, 783 mgms.; blood urea, 28 mgms.; chlorides, 803 mgms per 100 c.c.

April 8, phenolsulphonphthalein test was: 10 min., no color; 1 hour, no color, 2 hours, no color.

April 13-14, specific gravity test was:

Time	Amt.	Sp. Gr.
10 a. m.	100	1,010
12 n.	75	1,012
2 p. m.	25	1,015
4 p. m.	50	1,013
6 p. m.	50	1,013
8 p. m.	50	1,012
Day Total	350	
8 p. m.-8 a. m.	1,000	1,013

April 25, phenolsulphonphthalein test: First hour, no color; second hour, no color; third hour, no color.

Five complete blood counts, at long intervals, were all normal. Malaria, negative. Wassermann, negative once, and recently plus-minus. Gastric analysis showed complete absence of hydrochloric acid. Dental *x*-ray examinations negative for infection of teeth. *X*-ray of the heart showed 25 per cent increase in centimeter capacity, with considerable enlargement of the aortic knuckle. The basal metabolic rate was plus 34 per cent. Recently *x*-ray examination of the gastro-intestinal tract was negative, except for a large visualized appendix.

This appeared to be a fairly well defined case of acute exacerbation of a chronic nephritis of intermediate type, probably arising at the time of the rheumatic fever in 1917. This seems more likely when we consider that the patient has a definite cardiac lesion with mitral involvement.

I have records of another case of chronic nephritis following an acute attack during the course of tonsillitis. At the time of tonsillitis, the patient had joint pains with some swelling of the ankles and wrists. Concurrent with the kidney involvement, the heart was also infected, resulting in a slight mitral leak, which has persisted.

The case reported above was observed by me during these various incidents, and for this reason the connection between the rheumatic infection and the nephritis in the above case seems more reasonable. The enlarged aortic knuckle suggested lues, but we doubt if lues plays any part in his nephritis. The habit of making routine Wassermann tests in the Army is calculated to reduce the effects of lues to the minimum, and this patient presents no history suggesting lues since 1899.

The patient continued in good condition for the remainder of the year 1922, going on short trips, and ambulant at all times, with no great distress. The weight and blood pressure did not change greatly at any time. The standard nephritic diet, with large proportion of fruits, was given. January 31, 1923, blood chemistry was: Urea nitrogen, 35.3; creatinine, 1.25; chlorides, 730. Urinalysis February 23, 1923, was: Specific gravity, 1010; albumin, heavy cloud; rare hyaline and a few coarse granular casts.

Influenza and bronchopneumonia resulted fatally March 4, 1923. There were no signs of uremia at the time of death. The swelling of the feet was moderate, and evidence of cardiac failure dominated the picture. Most unfortunately, no autopsy could be obtained, and I feel that much valuable information has been lost. No study of a case of this kind can be complete without knowing the final chapter, and until such time as this can be done, we must of necessity remain in ignorance of many of the perplexing problems of nephritis.

PYELITIS: CONTRIBUTING FACTORS AND TREATMENT.*

BY

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It is not my intention to treat the entire subject of pyelitis and all of the contributing factors, but I shall treat in some detail, some of the conditions found in the urinary tract that are fundamental, underlying causes, and which must be relieved before we can hope for anything approaching permanent cure. All cases of pyelitis do not arise from the same place. Such a statement is strange if and foci of infection always situated in the same place. Such a statement is strange if we are to consider pyelitis as an infection of the kidney pelvis only, but it is held by most authorities that pyelitis in such a restricted sense never exists, though this belief cannot be substantiated. I am inclined to believe that a pyelitis without infection of the parenchyma can and in some cases does, exist. I take this view because of a group of cases not seldom seen by the urologist in his examination of the urinary tract in search of the primary foci of infection in the kidney. In some cases the centrifuged urine from one kidney, or both, contains so many bacteria as to exclude the possibility of contamination. Subsequent examinations over a long period of time, fail to disclose bacteria, either by smear or culture, when no treatment has been given, unless we are to consider the dilatation of the ureter by the catheters treatment. In other cases, regardless of what treatment is given, the pyelitis persists; or if relieved temporarily, returns. Thus, in the literature we have wide variance of opinion as to prognosis. Some urologists fly so high with optimism as to say that all cases of kidney infection can be cured; others are so buried beneath pessimism that they think no case is permanently cured. The majority of the cases of pyelitis, I think, can be cured permanently, and many more can be given relief and a prolongation of life.

Infection reaches the kidney through the blood stream and not by ascending the ureter, except in rare instances. It has been well established that bacteria, even the tubercle bacillus, can pass through the kidney without affecting it in a demonstrable way. It is, therefore, necessary in every case to search for the primary focus. Since the colon bacil-

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lus is the offending organism in from 80 to 90 per cent of cases, the gastro-intestinal tract must be looked upon as the primary focus; or some other organism must have caused the infection, and the colon bacillus is a secondary invader which has outgrown the original infection.

Why is it that bacteria sometimes pass through the kidney without apparent injury and at other times cause serious injury and distressing symptoms? I shall consider only one of the causes, obstructions in the ureter. Such obstructions lead to definite hydronephroses and hydroureters in severe cases, which are easily demonstrated by pyelograms and ureterograms. In other cases a stasis may very definitely exist, but be very difficult or impossible to demonstrate. I believe any stasis in the kidney pelvis, whether demonstrable or not, is the most ideal condition for the growth of bacteria, both by supplying a pool of urine which is probably never quite emptied, and causing a lowered resistance in the tissue of the pelvis and kidney.

In the treatment of pyelitis it is imperative that obstruction in the ureter be ruled out or its location determined and proper methods for relief carried out. Obstruction or stricture of the ureter usually occurs at very definite anatomical locations, though they may occur at any point. It is held by some that they are most frequently found at the uretero-pelvic junction, the brim of the bony pelvis and at the uretero-vesical junction. Other authorities say that except in rare instances strictures are not found at those anatomical narrowings, but are most frequently found at the broad ligament and in the region of the lymph glands, where they closely approximate the ureter. I believe this difference of opinion—and it seems to be borne out by the literature—is due largely to whether the patient is a male or female. In my experience, and in the experience of those with whom I have been associated, ureteral stricture is not as prevalent in the male as in the female. When it is found in the male it is most apt to be at the uretero-pelvic junction, or at the uretero-vesical junction. It is understood that ureteral stricture caused by an extension of inflammation from the seminal vesicles is approximately at this position (uretero-vesical junction). Dr. Geraghty has reported twelve cases of marked obstruction at the uretero-pelvic junction. Dr. Young has reported cases due to extension of inflammation from the seminal vesicles. One frequently finds in the literature reports of cases of obstruction due to faulty opening of the ureter into the bladder. Drs. Kelly, Young and Lewis have been particularly interested in this subject, and have furnished the profession with the most valuable observations. Obstructions in the ureter at its connection with the pelvis and bladder are as frequent in women as in men, but Hunner calls attention to the far more frequent strictures at the broad ligament and at the pelvic lymph glands. His observations have all been upon women, and urologists who practice exclusively on men have not been able to confirm his findings in so large a proportion of patients, and have questioned his work in rather severe terms. The diagnosis of pyelitis is extremely easy, but its cause and cure is, indeed, a different story.

The pathological processes found, congenital and acquired, are, indeed, varied. The obstructions at the uretero-pelvic junction may be divided into four important groups: (1) Kinks due to nephroptosis; (2) a valve-like opening similar to that formed by the entrance of ureter into bladder; (3) abnormal blood vessels so coursing around the ureter as to obstruct it; and (4) strictures at the uretero-vesical junction.

If nephroptosis produces a kink in the ureter acute enough to cause obstruction, it is evident that the kidney is not emptying properly and hydronephrosis of slight or great degree may result. It only remains for infection to be added to have a pyelitis that resists all treatment until the kidney is held in the proper place.

In some instances the ureter does not enter the pelvis at the lowest point, but courses through the wall of the pelvis, forming somewhat the same condition as at its entrance into the bladder. The greater the pressure within the pelvis, the tigher the opening is closed. I remember seeing a very remarkable specimen of this kind and will show a slide demonstrating it.

At the uretero-pelvic junction, inflammatory strictures are not infrequently found. When at this location, hydronephroses of large size result, as there is no strong musculature to force the urine along, as in the ureter when the stricture is lower.

Blood vessels, passing in front of the ureter and entering the posterior portion of the kidneys, or passing behind the ureter and entering the anterior portion of the kidney, may lead to kidney stasis by causing a sharp kink.

Obstructions between the kidney and the bladder are most frequently due to either inflammatory conditions or ureteral kinks. These inflammatory strictures do not differ microscopically from strictures found elsewhere in the body. They are located most frequently from six to eight cm. from the bladder.

Strictures or congenital abnormalities at the uretero-vesical junction, are somewhat rare. I have recently had a case where there were three ureteral meati in the bladder, two on the left and one on the right. When the urine was expelled from the lower ureter on the left it was seen to swell up to large size, forming a cyst-like body in the bladder, which gradually discharged its contents. The opening into the bladder was very small. A specimen from the ureter showed infection. The opening was enlarged by fulguration, and antiseptics injected into the kidney. The infection cleared up, and when the patient was last seen this kidney was still free of infection.

The hydronephrosis caused by these conditions works a vicious cycle. The increased weight of the kidney is apt to produce nephroptosis, thus complicating the condition with ureteral kinks.

To thoroughly discuss the symptoms of ureteral obstruction, complicated by pyelitis, would take more time than is at my disposal. I shall, therefore, confine myself to the more important symptoms. For convenience, I will divide these into (1) those due to absorption, or imperfect elimination; (2) gastro-intestinal; (3) urinary, and (4) referred. The symptoms of absorption or imperfect elimination, are most frequently headaches, backaches, loss of appetite, loss of weight and general malaise. These help us but little, as they are so frequently found in other conditions. Uremic symptoms are not frequently seen. The gastro-intestinal symptoms are due both to absorption of toxic material, or a central nervous system reflex. There is loss of appetite, nausea and vomiting. Not infrequently the patient will have gaseous distension. Constipation or diarrhea, sometimes alternating, are frequently present and apparently due to the urinary conditions. The most marked symptom in the urinary tract is pain. It is located in the kidney, frequently referred along the ureter to the bladder or down the thigh. If stricture is present, pain at its location is very frequent. There is often present a cystitis and, due to this, a burning pain and strangury.

Referred pains from the urinary tract can, and do, take in the area from the diaphragm to the feet. It is most frequent in the back and thighs. I have never seen a case of infection above the bladder sphincter cause pain in the legs or feet, though a fair number are reported.

Our physical examination may be entirely negative, but often an enlarged kidney can be palpated. Tenderness and pain over the kidney is frequently found. This tenderness may be absent, or slight when the greatest point of tenderness is found over the ureter, where it crosses the pelvic brim; but infrequently, this leads to the wrong diagnosis and appendectomy is done in an attempt to relieve the condition. Vaginal examination frequently shows the maximum point of tenderness in the broad ligament region.

Examination of the urine is of the greatest importance. A pyelitis may exist, causing extreme symptoms, when the urine casually examined shows nothing. Every case in which there is a possibility of urinary infection, and this means all of them, should have a large quantity of freshly obtained urine contrifugalized, and the sediment carefully strained and examined. If such an examination does not demonstrate pus and infection, culture should be resorted to; though this may be misleading, due to the chances of contamination. Small numbers of red blood cells are sometimes found. Large quantities of albumin are not found, except in extreme cases, and it may be entirely absent. In all except extreme cases a total phenolsulphonphthalein test should be done.

Our knowledge of these conditions is due entirely to the cystoscope, and it is upon this instrument that we have to rely for our diagnosis and treatment. As pointed out above, symptoms of cystitis may be the only symptoms present. A careful study should be made of the bladder for general cystitis and localized interstital cystitis, and ulcer should be carefully searched for. In most cases the inflammation on the trigone is pronounced, particularly around the ureteral orifices. These may be difficult to find, due to the swelling, or they may stand out very prominently as large swollen projections into the bladder. The ureteral meati should be observed, to determine whether the opening is functioning normally, or if pus or blood is expelled when they do function. Having studied all of these points carefully, catheters of sufficient size to insure against the leakage of urine around them, should be used. Specimens or urine should be collected in sterile tubes, from either side. (It is well to have the patient drink a large quantity of water before the examination is started.)

After the urine is collected, a divided phthalein test should be made, to determine the relative value of each kidney.

Our examination so far can tell us only if one or both kidneys are infected or damaged. To determine the presence of stricture, of hydronephrosis, nephroptosis, etc., we must resort to the passing of wax bulbs, and to pyelograms and ureterograms. With the water cystoscope the technique of passing wax bulbs of large size is difficult, but it can be done. With the Kelly cystoscope, it is

comparatively easy, but this instrument can be used only on women. Hunner improved the method of passing wax bulbs as a test for stricture. It is, briefly, as follows: Bulbs of varying sizes, to 4 mm. in diameter, are placed on catheters. The catheter is passed to the kidney, if possible, and withdrawn. A hang of the bulb at the stricture is felt somewhat similar to that felt in the urethra in case of stricture when a *bougie a boule* is employed. This method will give us a fairly accurate idea of the size and location of the stricture. Pyelograms and ureterograms are more widely employed, and they give a very good idea of the size of the ureter above the stricture and the kidney pelvis; but they do not tell us how severe the stricture is, except indirectly. In some cases it may be necessary to employ both methods. Without these two methods accurate kidney diagnosis is almost impossible.

Treatment of stricture, nephroptosis or congenital anomalies, means the restoration of the normal, and when complicated by pyelitis, the pyelitis must be treated at the same time the correction is made. Strictures can be very effectively dilated with catheters to large size (11F). At the time the stricture is dilated a suitable antiseptic should be injected into the kidney pelvis and the catheter withdrawn. There are so many antiseptics bearing such high recommendations that it is difficult to choose one. I have found none so effective as the silver preparations, and none less irritating. I prefer to start with a 5 per cent argyrol solution, gradually increasing its strength, later switching to a weak solution of silver nitrate, about ½ per cent, which may, in most cases, be increased to 2 or even 5 per cent. I seldom find it necessary to use a stronger solution than 1 per cent, and I have never used one stronger than 2 per cent. I cannot, personally, vouch for the good or condemn the bad effects, of 5 per cent solutions of silver nitrate. Strictures at the utero-pelvic junction have usually caused such extreme damage as to necessitate nephrectomy. If the ureter is to be enlarged by operative procedure, the Heineke-Miculicz operation is the one of choice. If the stricture is very long, an anastomosis, by severing the ureter and transplanting it in the lower pelvis, may be advisable, or it may be best to enlarge or short circuit the ureter, as is done in gastro-intestinal surgery by the Finney pyloroplasty, or gastro-enterostomy.

Frequently nephroptosis is the result of hydronephrosis due to obstruction, and when this obstruction is relieved the hydronephrosis will be relieved and the nephroptosis correct itself. When the obstruction is caused by nephroptosis, braces and belts may be tried; but these do not succeed in many cases. It may become necessary to suspend the kidney, by any of the recognized procedures.

In very severe cases of pyelitis, pyonephrosis or pyelonephritis, nephrectomy may be necessary; but one must be sure the opposite kidney is capable of doing the added work.

CONCLUSION.

A large proportion of cases of pyelitis have their underlying cause in ureteral obstructions. These obstructions can be diagnosed with accuracy only with the cystoscope and by ureteral catheterization. These obstructions must be relieved or treatment is of no avail. These conditions can usually be cured without operation.

RENAL AND URETERAL CALCULI.*

BY

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Renal surgery was practically unknown before 1860, and it has been since 1900 that most of the development has occurred. Until 1877 Gross' treatise[1] on the subject was the only available literature. The diagnosis of renal and ureteral calculi before the advent of the *x*-ray and the cystoscope was entirely symptomatic. Until recently the attention of the profession was directed almost entirely to diagnosis and treatment of calculi, and very little was written or said about the etiology of stones in the urinary tract. Now that diagnostic methods and surgical technic have reached a fair degree of perfection, we have begun to look for the cause and prevention of calculi.

The old idea that renal calculi "just grow" no longer satisfies the thinking physician. The researches of Billings, Rosenow and others, with reference to focal infection, are clearing away some of the clouds in this field. The earlier views of water and food being the causative agents of stone are becoming antiquated, and the researches of laboratories, physiologists and urologists, are changing our trend of thought to a more tangible course, that of bacterial invasion of the kidney. C. H. Mayo[2] says, "The infection theory seems to be the only tenable one, but I contend that the development of stone requires the presence of two factors of infection; that is, two types of bacteria, one producing the hematogenous infection, and one only coming from a local focus; the second may but temporarily inhabit the blood stream

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1. Gross "On the Urinary Organs."
2. C. H. Mayo: An. Sur., 1920, Vol. lxxi, pp. 123-127.

in the process of elimination." This seems to be a very plausible explanation. The first type of bacteria, those coming from a focus, cause a small infraction and necrosis, with subsequent deposits of fibrin and mucoid material; the second type causes deposits of the salt element in the urine about the fibrin or mucoid material which acts as a nucleus. This latter type, which is constantly being eliminated, does not harm the normal kidney and no stones are formed until there is formed a nucleus about which the bacteria lodge and begin their work of stone deposit. At the time the cultures are made, the primary infection may have disappeared. Rosenow[3], in a series of experiments on healthy dogs was able to reproduce stones by inoculating the pulp cavity of a healthy tooth with a strain of streptococcus isolated from the urine of patients who were known to have calculi.

Some of the best urologists do not accept this view, but still hold to the theory that calculi are caused by dietary habits, metabolic disturbances or hereditary tendencies. It is true that infections or other renal or constitutional disturbances may also disturb the kidney in such a way that some of the salts may be eliminated in concentrated form. This condition, superimposed upon an infarction or local irritation where there is fibrin formation or degenerated epithelium as a nucleus, would cause rapid stone formation. Stones are more often formed in the lower calix because the mucus, fibrin, etc., that serves as a nucleus cannot drain out so easily, and there is more urine residue at this point than in any other place in the kidney.

Two-thirds of the stones giving trouble are found in the second and third decades of life. Stones formed of urates and uric acid are usually found in the young, while oxalate and phosphate stones are more frequent in those past 35. Braasch reports bilateral lithiasis of 12.3 per cent in a collection of 450 cases of nephrolithiasis.

The recurrence of calculi is, in my opinion, due either to the stone having been overlooked at the time of operation, or the focus of the infection that produced the original stone was never removed.

Let us consider for a moment the anatomy of the ureter and spaces above. Each calix has a narrowed neck, where the outlet is considerably smaller than the diameter of the calix. After a stone has become of some size, it will not likely pass the neck. There is a constriction at the junction of the kidney pelvis and ureter, where it passes through the renal fascia. There are then constrictions where the ureter passes over the common iliac and in the broad ligament in the female, and as the ureter passes diagonally through the bladder wall. These are points where stones usually lodge.

I will not attempt to discuss the diagnosis of renal or ureteral calculi with the classic symptom—those cases can make the diagnosis for themselves. Stone may or may not produce pain. If no active infection be present and the stone is in a calix or free in the renal pelvis, there will be no pain. The stone may not be suspected, and may be found only in routine examination for some other condition. Renal and ureteral colic are produced only when something is obstructing the normal outlet of urine from the kidney, and this may or may not be produced by a stone. A lump of pus, mucus, fibrin or epithelium, may produce classical symptoms of stone. Again, a kidney pain may be referred to the abdomen, hip or even to the opposite side, thus making the diagnosis very obscure. The only pain some complain of is in the genitals. There may or may not be tenderness over the kidney or ureter. Blood, visible or microscopic, may or may not be present; but it is found in other conditions than stone, hence it is of little diagnostic value when found.

The *x*-ray and cystoscope should be used in conjunction. One may be easily misled by shadows that look like stones. Phleboliths or calcified lymphatic glands, sometime cannot be differentiated except by having an opaque catheter in place, and at times it will be necessary to take radiographs at various angles to prove that they are not calculi. Often a diagnosis of stone in the ureter may be made by passing a wax-tipped bougie, and getting an imprint or scratch on the wax. Sometimes a filiform bougie or catheter may pass the stone, when a distinct grating sensation can be recognized by the trained touch. This is not always reliable and a diagnosis from it alone should be very guarded, because a rough place on the instrument may produce the same sensation. Very small stones in corpulent individuals, and pure uric acid stones are very difficult to show—sometimes impossible. Braasch[4] states, in a table of compiled statistics on about 400 cases, that the *x*-ray was negative in 9 per cent. By means of the cystoscope and *x*-ray combined, the percentage of failures in diagnosis may be reduced even lower than this.

All routine kidney examinations should be preceded by castor oil and at least two enemas. At cystoscopy, the bladder should be thorougly searched for pathology and

3. Rosenow and Meisser: "Nephritis and Urinary Calculi After Production of Chronic Foci of Infection," Jour. A. M. A., Jan. 28, 1922.

4. Braasch: An. Sur., 1920, Vol. lxxi, pp. 128-138.

stone. The ureter should be catheterized and the urine collected for culture and microscopic examination. The capacity of the kidney pelvis should be tested with sterile water; this should be withdrawn and radiographs and pyelograms taken by injecting the kidney pelvis with 12 per cent sodium iodide solution (which should be washed out afterward). This routine will give the minimum of failures in diagnosing stone in the kidney or ureter.

The treatment is surgical or nonsurgical. Only stones in the ureter may be removed without operation. Stones that have passed through the constriction of the ureter at its inlet, or where it passes through the renal fascia can, as a rule, be teased out. Some will pass without aid from the pressure of the urine in the kidney. Larger and irregular stones may lodge at a point where the ureter crosses the iliac vessel and broad ligament, or as the ureter passes through the bladder wall. By means of the cystoscope and ureteral filiforms and bougies, the ureter below the stone can be dilated and in this way decrease the resistance offered to the stone. It is also important to lubricate the stone; this is done by injecting olive oil or liquid petrolatum. If there is no complete obstruction, and little or no active infection, one may work for weeks to deliver the stone in preference to opening the ureter, with the resulting scar.

Kidney stones cannot be removed by nonsurgical means, nor can they be "dissolved," as some charlatans would lead the public to believe. The incision I have found most practical in all kidney operations is an anterior loin incision, the credit for which should be given to Dr. Chas. H. Harris. This incision begins about one inch below the point of the eleventh rib, and passes forward and downward. The peritoneum is pushed forward, and this leads one down to the anterior and lateral surface of the kidney instead of the lateral. This has two advantages: (1) In delivering the kidney it can be brought forward, swinging on its pedicle instead of having to be pulled laterally, in line with the pedicle; (2) the ureter can be explored for some distance through the same incision and, if necessary, by increasing the incision only an inch or two, the ureter can be explored its entire length down to the bladder. If possible, a kidney stone should be removed through the kidney pelvis, in preference to opening the kidney substance. But this may not always be accomplished when a stone lies in a calix, and there is considerable narrowing of the neck. In such cases a small incision is made along the greatest circumference and in a longitudinal direction directly over the stone and then closed.

I think every kidney that has been operated upon for stone should be drained with a small tube and treated daily with instillations of 1 per cent mercurochrome, 1 per cent silver nitrate, or 5 per cent neosilvol. This washes out the kidney cavities and helps to get rid of infection.

For exposing the ureter a similar incision is used as in the kidney operations. If the stone lies high and can be forced back into the kidney pelvis and removed from this site, it is to be preferred. If this is not possible, it can be removed from the ureter by exposing and holding the ureter taut, making a small longitudinal incision directly over the stone, which can then be removed with forceps. The rent is then closed.

Every case of ureteral or renal calculus should be treated by lavage of the kidney pelvis at regular intervals, to clear up the infection after the stone is removed. Paul[5] is convinced that if every case of nephrolithiasis could be thoroughly investigated, a history of preceding systemic infection could be elicited; and that the removal of a calculus in the upper urinary tract should be considered only a preliminary step in the cure; and that treatment of the concurrent infection must be carried out thoroughly if recurrence is to be avoided. A thorough search for foci of infections should be made. The teeth should be *x*-rayed if at all defective, and proper dental treatment instituted. Suspicious tonsils should be removed. Infection anywhere else in the body, such as cholecystitis, osteomyelitis, sinusitis, etc., should be removed.

The medical treatment should be that of any urinary infection. I think it is best to place the patient on alkaline treatment for ten days, then on acid treatment for ten days; that is, keep the urine alternately alkaline and acid, at short intervals. This helps to reduce the virulence of the infection present. Urinary antiseptics may also be given. Of these I prefer urotropin, grains 25, intravenously, every day, preferably during the time the patient is on "acid treatment," as it is thought that urotropin acts best in an acid medium. The diet should be free of all condiments and not highly seasoned, and the fluid intake should be the maximum.

SUMMARY.

1. It can be shown in the majority of cases that renal and ureteral calculi have a bacterial origin.

2. Most of recurrences of calculi are due to stones being overlooked, or failure to remove the primary focus.

5. Paul: Bone Suppuration as Basic Cause of Renal Calculus," Canadian Med. Asso. Jour., Sept., 1922, Vol. xii, No. 9.

3. Careful systematic use of the cystoscope and *x*-ray will reduce errors in diagnosis of renal and ureteral calculi, to a minimum.

4. Small ureteral calculi can, as a rule, be removed without operation, while renal calculi are a definite surgical problem.

5. Every case should have careful treatment after the removal of the calculus. All foci of infection should be removed to prevent a recurrence of the calculus.

ANALYSIS OF FORTY CASES.

TABLE I.

ASSOCIATED INFECTIONS THAT MAY HAVE BEEN THE ETIOLOGY OF CALCULI.

1. Tonsils	8
2. Oral sepsis	9
3. Tonsils and teeth	6
4. Chronic constipation	1
5. Chronic pelvic infection	1
6. Cholecystitis cum cholelithiasis	1
7. Suppurative osteo-arthritis	1
8. No note referring to local infection	13
9. Pyelitis complicating stone:	
A—Colon Bacillus	6
B—Staphylococci	2
C—Organism not determined	14
D—Unable to get specimen for culture	10
E—Sterile culture	8

TABLE II.

AGE AND DURATION OF SYMPTOMS.

Age.		Duration.	
10 to 20 years	4	Initial attack	5
20 to 30 years	12	Less than 1 year	3
30 to 40 years	9	2 to 3 years	8
40 to 50 years	6	3 to 5 years	6
50 to 60 years	8	5 to 10 years	7
60 to 70 years	1	10 to 15 years	7
		15 to 50 years	0
		52 years	1
		Unknown	2

TABLE III.

Males	23
Females	17
Total	40
Location of Calculi:	
Right kidney	4
Left kidney	10
Bilateral	3
Right ureter	8
Left ureter	15
Recurrence—Kidney untreated after operation	2

SOME OF THE NEWER DIAGNOSTIC METHODS IN THE STUDY OF THE KIDNEY.*

BY

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In the study of the kidney, the size, shape, location and relative position, play an important role.

By ordinary radiography the lower half of the kidney can be shown, provided the patient is well prepared. Under the most favorable circumstances the entire kidney may be seen, but the outline is often vague, especially where such diseases as tuberculosis and malignancy exist. Dr. Carelli, of Buenos Aires, has recently introduced a plan which bids fair to meet the requirements. It is known as the "Carelli Method of Peri-renal Inflation," and consists of an emphysema around the kidney. The principle is the same as that of pneumothorax or pneumoperitoneum. The kidney being an extra peritoneal organ, however, the procedure is different. It is introduced into the perirenal areola tissue and the kidney radiographed. The method, as practiced by Dr. Carelli, is described in the *British Medical Journal* of January 21, 1922. I have had no experience with it, but believe the method can be simplified by the use of sterile air instead of oxygen, and by using an ordinary 50 c.c. syringe in the place of the oxygen manometer. A careful review of the literature on the Carelli method leads me to conclude that it bids fair to be of considerable aid in studying the kidney.

The modern methods of studying the pelvis of the kidney began in 1897, when Tuffier advanced the idea of an opaque ureteral catheter. From this date, and probably from this idea, an immense amount of information has been gained about the urinary apparatus. Schmidt, in 1901, used a fused wire in the ureteral catheter, which showed clearly the course of the ureter on the radiogram. From that time until the present, a great many opaque substances and gases have been used. None of them have met all the requirements. The salts of bismuth and sodium, as well as some of the colloidal silver preparations, have been very useful. Of the objections offered to most of the preparations used, the discomfort to the patient probably takes the lead. Many claim that pain should not occur after injecting the kidney, and that it always means an error in technique. Regardless of this assertion, a great many patients complain of pain. The one symptom of pain following the use of the usual preparations, leads me to believe that the examination should be made only where the patient may be put to bed, if need be, for a few hours afterward.

Following the general impression gained in doing pneumoperitoneum and other work of like nature, I began injecting sterile air into the pelvis of the kidney for radiographic purposes. At the time I began this work, about two and one-half years ago, it was purely an experiment with me, as I had not seen it done or noted it in the literature. The method I use is essentially as follows: (1) The ureteral catheter, of *x*-ray type always, is known to be pervious and draining off the urine; (2) the patient is placed on the radiographic table, with back to the plate; (3) with a 30 c.c. syringe full of air, an assistant or nurse connects the needle and introduces the air, as they would any other material, and (4) at the proper time the skiagraph is taken. For several reasons we can not know the amount of

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 9, 1923.

air required in a given case. In the first place, we do not know the exact capacity of an individual pelvis, and in the second place there is an indefinite amount of air which always trickles back around the catheter, the amount depending on the relative size of the catheter and the ureter. The smallest amount of air I have used, successfully, was 10 c.c. The greatest amount required was 30 c.c. A slight discomfort over the kidney being examined is a warning to cease. After the radiogram has been made, the catheter having remained, traction is made on the piston and the air withdrawn. If the examination is a success, the *x*-ray plate will show the kidney pelvis, the calices and a cylinder around the catheter, to be dark. Air does not seem to fill the calices so well as do some of the opaque solutions, but it shows irregularities of the ureter in great detail.

In every case a control picture must be taken, and if any gas is found in the digestive tract, the patient must be further prepared before an examination is made, for the reason that the air or gas in the intestine is the same color as that in the urinary tract, and is likely to lead to error.

In selected cases this method seems to have some advantages:

(1) If done properly it is almost painless.

(2) It will show stones that may otherwise be overlooked.

(3) It shows the ureter in great detail, though in obese patients it is not satisfactory.

ABSTRACT OF DISCUSSION.*

Dr. Chas. M. Simpson, Temple: I was very much interested in the paper on pyelitis by Dr. Cecil, in which the mechanical factors affecting pyelitis were emphasized. It has been known for years that two of the important factors in pyelitis are focal infection and hematogenous infection. I believe this recognition of the mechanical factors in pyelitis is a much newer development, and one that is only now being thoroughly worked out. What I understood the author to emphasize, is that the free and unimpeded drainage of urine is a most important element. Possibly the focus of infection may prove to be the source of both, causing the stricture itself and then adding to the complication of the case by inciting the infection above the stricture. The fact that local treatment seems to do so much good is partly due, I am inclined to believe, to the actual passage of the catheter and the consequent dilatation and overcoming of these mechanical defects.

As for the paper of Dr. Bursey, concerning the problem of stones in the ureter and kidney, the question of recurrence is the big element. At the Massachusetts General Hospital, Cabot and Crabtree found in following up one hundred and fifty cases of postoperative renal stones, that there was a recurrence of nearly fifty per cent after a two-year intermission, as proved by the *x*-ray. Why should there be such a large percentage of recurrence? The author emphasized the need of treatment after the removal of stones. Of the above mentioned cases, practically none received this after treatment. Possibly the first factor in such a recurrence was that the stones were not removed at the original operation, and a second factor was that these cases did not have the infection cleared up afterwards. To overcome the first factor, I think it important to see that all the stones are out, as nearly as is possible by means of the fluoroscope, or in the event this is unsatisfactory, which it is in the large majority of cases, possibly the use of a film taken at the operating table. Many fragments are too small to be palpated, many are covered with fibrin or blood clot, and many slip down the ureter or into the calyces. We should have a check-up on every case of stone operated upon, and *x*-ray plates should be made before the patients are discharged from the hospital. If newer developments definitely show that infection is the cause of stone, we will then prevent a large number of recurrences which we have been encountering heretofore.

Concerning the newer methods of diagnosis discussed in Dr. McCollum's paper, I have had some occasion to try the injection of the pelvis with oxygen, with results similar to those described by the author. Air was not used, as I felt that I did not know enough about its possible effects. Gas injection has, I think, one decided advantage, as has been mentioned; it does aid in finding stones. It gives the stone a much sharper outline, so that one can secure a better knowledge of its position within the pelvis. It lacks, however, one thing—it will not permeate between adjacent stones. What I would like to know is whether a stone is compound or not; that is, whether it is composed of two or more fragments. Some medium which would so distinguish them as to give this information would be a very valuable adjunct. I had looked to oxygen, or air, to do this, but it has failed in this particular.

Dr. Jno. H. Turner, Houston: In the discussion of pyelitis there is one point about the etiology which I want to stress, and that is seminal vesiculitis. This condition is surely responsible for strictures of the ureter, and, as we know, pyelitis. I have found this to be true in a large percentage of my pyelitis cases. In the use of the wax-tipped catheter in the diagnosis of stone which cannot be found by *x*-ray, Dr. Keyes has called attention to the act of withdrawing the catheter and at the same time twisting it, thus leaving a spiral scratch on the wax, whereas cystoscope scratches will be in straight lines. I have also found in my renal flushes and diagnostic kidney work, that if the patient is made to lie on a couch for an hour or an hour and a half, and drink several quarts of water before leaving the office, renal colic is in most cases obviated. This point cannot be overstressed.

Dr. Kent V. Kibbie, Fort Worth: Dr. Bursey has presented in a concise manner the present status of the urinary stone. The improved diagnostic technic has been a boon to both patient and physician. Indefinite lumbar pains, lumbo-sacral pains and pains of the upper, middle and lower quadrant of the abdomen, have been solved through this method of study. Innocent viscera have been saved from the onslaught of the surgeon's knife. I recall a statement made by O'Neil, recently, that twenty-five per cent of calculi cases had had previous abdominal operations. That is certainly a large percentage of error. Even the microscope as a diagnostic agent must feel itself slipping, with the classical findings of blood cells, kidney cells and casts pronouncing the gloomy prognosis of interstitial nephritis, to later find that the cystoscope, shadowgraph and functional tests has left it without a place in the race for diagnostic acumen.

*Papers of Drs. Cecil, Bursey and McCollum, immediately preceding.

This brings to my mind a case of that nature in which for almost two years a patient, twenty-six years of age, was treated for nephritis by a well known authority, and later on it developed under modern diagnostic methods that the symptoms were all due to the presence of a renal calculus. That was some eight years ago, and since that time the patient has enjoyed perfect health.

The etiology of stone has been settled much in the same manner as that of the gall-bladder stone. Primarily a focus of infection, later it receives the mineral deposits. It must be conceded that age and diet play no small part in the development of stone. Phosphaturias, oxalurias and urates, must bear some relation to the kidney output, and this in turn to the diet.

In the matter of recurrence of the calculus, I am disposed to give the patient the benefit of the doubt rather than the physician, believing that the stones have been overlooked. There lingers yet a disposition to seize the first evidences of pathology without further search, to later find that we have not relieved our patient. I have in mind a case in which the diagnostic technic was followed out as outlined this morning. In a man about twenty-three years of age, there was found a right ureteral stone in the mid-ureter. The stone was removed, and in ninety days later the patient was transferred to a northern clinic, and there was found to have two renal stones, one in each kidney. Evidently those stones were there at the time of the removal of the ureteral stone. Recurrences will dwindle as we perfect our diagnostic technic. Careful cystoscopic and x-ray technique are prerequisites to satisfactory work. I wish here to stress the use of the stereoscopic method of study in shadowgraph work. Its marked advantages have been easily shown. Plates are easily misread, and the more so in the determination of stone.

The general practitioner should not get the impression that the determination of stone means surgical interference primarily. Much credit is yet to be given to the intelligent use of opiates in relieving spasms of the structures involved, permitting egress of the calculus. Time and patience are involved in the relief of these cases, and the agencies for relief should be used step by step in securing results with the least pain. The after treatment suggested by one of the authors is certainly logical. However, I am disposed to avoid any added instrumentations where it can possibly be avoided. I would rather rely upon internal medication. That it is possible in many instances to gain satisfactory results by internal treatment, supported by systematic and periodic examinations of urine, has passed the stage of doubt with me. I have had under observation five cases that have been under the supervision of recognized staff urologists for ureteral and renal infections, who after months of local treatment failed to secure the desired relief. I believe at this time that success in this type of work is limited.

Dr. H. R. Dudgeon, Waco: There is one point in the etiology of ureteral obstruction which I did not hear mentioned. I refer to complete procedentia of the uterus. I have seen, either at post-mortem or in the dissecting room, three such cases. In all of them the ureters were greatly dilated, due to obstruction occurring in the lower end of the ureter from the drag caused by the descended uterus.

I do not believe that local applications do a great deal of good in pyelitis, because it is not possible to bring the solutions into intimate contact with the micro-organisms causing the infection, as they are protected, either by layers of granulation tissue or layers of epithelial cells, which normally line the pelvis. We have all seen what appeared to be marked improvement following local applications. In my opinion the improvement is due to the fact that the stricture of the ureter is dilated by the catheter and better drainage is provided. It is the improved drainage that does the good and not the local application.

The etiology of renal stone is still somewhat in doubt. I believe that the drinking water must have some influence, perhaps small, in its causation, because we see kidney stone much more common in some regions than in others. It is probable that infection and infarcts have much more to do with it than the water. We may again look to the urinary bladder for some light on the question of stone formation. We will find in every museum bladder stones that have formed about such bits of foreign material as tooth picks, hair pins, etc., and it is common experience to find incrustation of urinary salts about the tip of an indwelling catheter. Stone is also exceedingly common in the prostate, where infection and mucus formation are so often present. It is reasonable to assume that renal infection may give rise to the irritation, and the formation of a foreign body such as mucus around which a stone may form, or that an infarct may serve as a stone nucleus by reason of the devitalized tissue it provides. It is also common experience to find stone associated with renal tuberculosis. If renal stone is due largely to infection and irritation, one would naturally suppose that recurrence would not be rare, and I believe the literature on the subject says it is not rare.

Dr. F. S. Schoonover, Fort Worth: Pyelitis associated with ureteral obstruction has been well discussed by Dr. Cecil, but there are certain other phases of pyelitis which warrant consideration. Foci of infection in the teeth and tonsils have been conclusively shown to harbor bacteria capable of producing pyelitis and cystitis in experimental animals, and the elimination of such foci is essential in the treatment of pyelitis. With this study of infection comes the question of urinary stasis in the lower urinary tract. We are all acquainted with the frequency of pyelitis and cystitis associated with prostatic obstruction. Dr. Arthur Curtis of Chicago, has recently called attention to the presence of residual urine in the bladder of pregnant women. He ascribed to this, and not to the pressure of the gravid uretus upon the ureter, as has been largely believed to be the case in the past, the frequent finding of pyelitis in pregnancy. The various new synthetic dyes which are being used for pelvic lavage, together with the use of urotropin intravenously, promise to increase the number of cures in this disease.

My attitude toward the type of ureteral stricture about which Dr. Hunner has aroused so much interest is, that it is largely nonexistent. It is not demonstrable to my satisfaction, either by bougies or by urography.

Ureteral stones test the diagnostic acumen of any doctor. The history is often atypical and there is frequently associated pathology elsewhere in the body, which may entirely obscure the urinary pathology. However, the diagnosis of the ureteral stone today is more easily accomplished, for several reasons: First, physicians are more alive to the frequency of right-sided abdominal pain being ureteral in origin, and consequently fewer snap diagnosis of appendicitis are made; second, by the means of the ureteral catheter and better x-ray technic more ureteral stones are positively diagnosed, and the percentage of error is constantly being reduced. The recent work of Dr. Keyser has again brought to the attention of physicians the question of why stones form in the kidney. Dr. Charles Mayo for many years has believed that stones in the kidney are

formed in the same manner as the shell of an oyster is formed—by bacteria. Dr. Keyser's work would confirm this opinion, for under certain disturbed conditions of the colloidal chemistry of the kidney, bacteria of certain types do produce stone in the kidneys and bladders of experimental animals. A thorough understanding of this pathological process may make it possible to prevent stone formation. The most valuable recent contribution to the surgery of renal stone has been the fluoroscopy of the kidney at the operating table at the time of pelviolithotomy, and by which the number of recurrent and overlooked stones has been greatly reduced.

The use of pneumo-pyelography in renal diagnosis is not new. The method has been tried and discarded by many urologists during the past twenty years. There may be certain cases in which its use would be superior to an opaque medium, but these cases are surely few. At the Mayo Clinic, various pyelographic media have been tried, including collargol, thorium nitrate, sodium bromide, and finally twelve per cent sodium iodide. The last named seems to meet best the requirements of a medium, which are casting a good shadow, being entirely soluble in water, and being innocuous to the renal epithelium and non-toxic when absorbed into the general circulation. Neither the use of air in the kidney, around the kidney, nor in the peritoneal cavity has been found necessary or greatly to the advantage of the patient in routine urologic diagnosis at the Mayo Clinic.

Dr. L. J. Peters, Schulenburg: I have recently had a personal experience in a case of pyelitis. My wife suffered three attacks, which were first diagnosed as malaria. The blood study was negative for malaria, and cystoscopic examinations disclosed the true condition. The pelvis of the kidney was irrigated three times with silver nitrate solution, which seemed to clear up the trouble. The cause of the trouble was undoubtedly bad tonsils and teeth. The tonsils were removed and the teeth attended to. Incidentally, a lacerated cervix was repaired. At the time the clean-up treatments were being given, the patient weighed 109 pounds. Seven or eight months later she weighed 131 pounds. There could be no better illustration than the importance of looking for focal infection in such cases.

Dr. H. L. Cecil (closing): The question of pyelitis is so large that it is impossible to treat the entire subject in a paper of this kind. My remarks were confined to congenital and acquired obstructions in the ureter. I wish to thank Dr. Simpson for calling attention to this. In treating pyelitis it is necessary to remove any primary focus of infection, but it is also just as necessary to treat strictures of the ureter if they exist. If a primary focus of infection is determined and properly treated, this relieves the cause, but the local condition must also be treated properly, or we may have little hope of curing the pyelitis—the condition we have been asked to relieve. If stricture is present, it is of primary importance to determine its location and remove it as an etiological factor. I have nothing to add to the discussion of pyelitis, but will say a few words about pyelographic media. Air will accentuate the outline of calculi, and it does not cause pain; but it is entirely unsatisfactory for general use, as it will not give a clear, detailed outline of the kidney pelvis or ureter.

Dr. E. H. Bursey (closing): There are one or two points in Dr. McCollum's paper that I would like to stress. The pneumo-pyelogram does help to bring out shadows of stones, because a greater contrast is produced. There is very little pain attached to the procedure. You can withdraw the air and the patient is perfectly comfortable in a moment's time. We all know that there are cases of pyelitis that will clea up by internal medication, but a great portion o cases will not, and it becomes necessary to treat th kidney pelvis directly. This morning I saw a docto with pyelitis. He has had it for four weeks and ha been under treatment, yet his symptoms continue He will feel fairly well for a day of two, having n fever, and then the temperature will jump to 104° I insisted on cystoscopy and lavage of the kidne pelvis, and he said he knew too much about it—wa afraid of the pain. An acute kidney should be firs treated to get rid of the acute conditions, and th pyelogram taken later. I recall one case in par ticular in which I injected a very acute kidney wit thorium for a pyelogram. That patient today is on of the worst enemies I have. She was thrown into violent pain, which continued; I was unable to was the thorium out of the kidney and she drifted int other hands. The kidney proved to be surgical an the other man removed it.

I think the matter of recurrence of stone is o primary importance. It is very essential to remov the infection that is producing stones in order t prevent recurrence. Infection in the kidney shoul be cleared up.

There is one causative agent in pyelitis that Dr Cecil did not mention, and I think it is most impor tant—the hematogenous infections of the kidney. I has been proven fairly conclusively that practicall all kidney infections, barring local infections, com through the blood stream from some infected sourc elsewhere in the body, such as bad teeth, infecte tonsils, osteomyelitis, etc. There has been some con troversy as to the cause of dilatation of the kidne pelvis. One group contends that the dilatation i due to the infection and another that it is due t stricture of the ureter. Those who contend that th infection causes it, explain that it causes swellin of the ureter and narrowing of the lumen. Thes points of stricture or obstruction usually are in th anatomically narrowed portion of the ureter as i passes through the renal fascia, across the commo iliac, and, in women, as it passes through the broa ligament and at the uretero-vesical junction.

My experience in making cultures of urine fro the kidney pelvis is rather unsatisfactory. A larg percentage of frank cases of pyelitis will show n positive culture. This evidence would not eliminat infection of the kidney pelvis, but the fault is prob ably due to the culture media used not being suitab to the particular bacteria present.

It is well to measure the size of each kidney pelv in every kidney examination. Frequently this wi give a cue as to the treatment. If we have a larg dilated kidney pelvis, additional treatments are n going to give relief. Strictured ureters must l dilated to give drainage to the kidney pelvis, ar the graduated filiform is best suited for this purpos

I have long since abandoned the use of argyrol the treatment of pyelitis because it is too thick ar heavy and there is too much of it deposited on th mucosa. I think the solutions of 1 per cent mercur chrome, 10 per cent neo-silvol or silver nitrate a best. I formerly used silver nitrate, beginning wi ¼ per cent and working up to 2 per cent, but th produces considerable reaction and the patient frequently thrown into renal colic. Mercurochron has not proved nearly so painful.

I do not think any kidney examination is comple without a pyelogram, because in that way we c see what condition the calyces are in, and what kin of drainage the kidney is getting. It will also sho us the position of the kidney. If we will analy our cases carefully with the aid of the shadowgra catheter or pyelogram, we will err in very fe cases. It may be necessary to tilt our patient fro

one angle to another to prove whether the shadow seen is in the kidney or in the ureter.

Dr. Chas. H. McCollum (closing): The subjects under discussion are very much like typhoid fever and rheumatism—there is neither finish nor end to them. That is true because we do not know them very well. Among the etiological factors that should receive attention is the subinvoluted, retroflexed uterus, which frequently serves to obstruct the ureter.

I do not claim that the method advocated in my paper will meet all indications. It is useful only in selected cases, and in such cases it has considerable value. It is not a difficult technique; in fact, it is easy. It is also plain in this connection, it occurs to me, that doctors should endeavor in every way possible to avoid producing pain. That was one of the first purposes of the physician, and it is still a duty of the doctor. Since writing my paper I find that Dr. Keene did this work and reported it in 1918.

TUBERCULOSIS OF THE TESTICLE: ITS RELATION TO TUBERCULOSIS OF THE OTHER GENITALIA.*

BY

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Tuberculosis of the testicle is but the local manifestation of a general systemic disease. It has been found occasionally in the unborn child and in the aged, but it is more common between the ages of twenty and forty years. According to Blanton and others, it occurs in about 2 per cent of patients dying of pulmonary tuberculosis. Jani, Spano and, more recently, Nakarai, have found tubercle bacilli in the otherwise normal testes of patients suffering from active tuberculosis elsewhere in the body. This would explain the common occurrence of tuberculous epididymitis in tuberculous patients following trauma.

From clinical and experimental observations we know that the body of the testis is infected by one of two methods—through the blood stream, or by extension from the epididymis. In children the process is usually miliary, that is, hematogenous in origin, and involves the testis. A similar mode of invasion of the testis occurs in the adult with general miliary tuberculosis.

There is a difference of opinion as to whether the prostate and vesicles are usually tuberculous before the epididymis, or whether the reverse is more common. Young, Whiteside, Quinby, Keyes and others, believe that the primary focus in the genital tract is the prostate or vesicle; however, the majority of observers believe that the prostate and vesicles are affected secondarily in a very high percentage of the cases (in 64 per cent at the Mayo Clinic), but that the tuberculous process usually begins in the epididymis. There are a few cases on record that seem to be undoubtedly primary prostatic or vesicular tuberculosis, without involvement of the epididymis or testis, but in general it may be concluded that in the large majority of cases of tuberculosis of the body of the testis, the disease has extended from a tuberculous epididymis. The importance of this fact clinically is that on it is based the rationale of surgical interference in this disease.

Evidence of acute or chronic orchitis was found in 78 per cent of the 205 patients on whom epididymectomy or orchidectomy was performed for tuberculosis at the Mayo Clinic, from 1905 to 1920, inclusive. Castration was necessary in about 20 per cent of the cases, and in three it was necessary to remove both testicles.

I shall briefly review two or three points in the anatomy of the testis before discussing the pathology. The testes hang in the scrotum with the epididymes behind. Covering the front and sides of the testis is the tunica vaginalis, its serous surface being derived from the peritoneum originally. Inside of this serous coat is a hard, white fibrous layer, the tunica albuginea. This covers the entire testis and at the posterior border dips into the interior of the testis to form a hilus or root. From this root fibrous septums extend to the inner surface of the tunica albuginea, dividing the interior into lobules or segments, each of which is occupied by a convoluted seminiferous tubule. The hilus or root is the point of entrance of the blood vessels and nerves, and the point of exit of the veins, the lymphatics and seminal ducts. It is called the corpus highmorianum, or the mediastinum testis.

Just how the tuberculous process gets into the body of the testis from the epididymis, is still a matter of controversy. Many observers believe that it is by way of the lumen of the ducts, while others believe that it is by way of the interstitial tissues, or by both routes.

Forty-six testes removed at operation for tuberculosis were studied grossly and microscopically, and a search made of the literature, in order to ascertain the character of the pathologic process and its relation to the adjoining structures. Observations on the processes found in these are as follows:

Forty-five of the forty-six specimens revealed advanced tuberculosis of the epididymis, and varying involvement of the corpus highmorianum. One specimen revealed moderately advanced tuberculosis of the epididymis without gross or microscopic lesions of the upper pole, or of the corpus highmorianum, or the body of the testis. Nine

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 9, 1923.

of the specimens appeared to be grossly free from the disease, but microscopically were tuberculous. In eight specimens the disease had been arrested temporarily, or permanently, and signs of regression were seen. In thirty-eight, the disease was active and advancing.

Tuberculosis of the testis is primary in the epididymis. First there is an inflammation in the walls of the duct, with swelling and degeneration of the epithelial lining. Around the tube there are edema and collections of round cells, then epithelial cells, fibrous cells and giant cells, forming definite tubercles. These multiply, caseate at the center, then coalesce and form large caseous nodules which, in the extreme stage, completely fill the fibrous sheath of the epididymis, and may leave a quite homogeneous, cheesy mass in place of the duct and its supporting structures. The process advances up the epididymis, through the lumen of the ducts and through the peritubular and perivascular lymphatic spaces, to the corpus highmorianum. Here the picture is largely that of an interstitial inflammation, with multiple tubercles and giant cells, but without very definite fibrous capsules to the tubercles. The tubular epithelium shows varying degrees of swelling and degeneration, but largely compression. Often as the epithelium degenerates and the walls are pressed together, the lumen becomes filled with debris into which fibrous cells grow, organizing it and entirely plugging the lumen.

The advance of the disease into the body of the testis presents different pictures in different stages, and often the picture varies considerably in different areas of the same testis; thus two types of tuberculosis are presented, one due to the destructive action of the *bacillus tuberculosis,* and one to the elaborated toxin. The condition of each is characteristic.

The invasion of the *bacillus tuberculosis* is characterized by the formation of three types of tubercles, depending on the location —intratubular, perivascular and interstitial. The intratubular type is typical of the extension of the disease by way of the lumen of the tubules themselves. The epithelial lining cells swell and degenerate, giant cells appear, and the lumen of the tubule becomes a definite tubercle. As the process advances, the elastic and fibrous walls of the tubules are destroyed, and the neighboring tubules and interstitial tissues and included in the nodule, which caseates in the center and develops a more or less well defined, fibrous envelope. The perivascular invasion is characterized first by collections of round cells, at intervals, along the walls of the nutrient vessels entering the testis with the fibrous support-septums from the corpus highmorianum, and second, by the appearance of perivascular tubercles, usually well circumscribed, with very little general reaction throughout the organ. As the process advances, the interstitial and peritubular tissues are involved. Finally, the tubules themselves are invaded by the enlarging, compressing and caseating tubercles. The epithelium degenerates, the lumen is closed and all structures are destroyed. The interstitial type of invasion would be better designated as peritubular, as the extension is probably along the peritubular lymph channels. Discrete, definite tubercles appear in the interductal spaces, which enlarge, caseate and coalesce, as elsewhere, compressing and invading the tubules, with degeneration of the epithelium and destruction of all structures.

The picture produced by the toxin of the *bacillus tuberculosis,* is quite different. There is marked interstitial edema, sometimes with compression of the tubules themselves. This may be diffuse over a large area, or it may extend from the neighborhood of a growing tubercle. The epithelial cells of the tubules, as this edema advances, seem to swell and degenerate. The upper and more highly differentiated layers, spermatozoa, disappear first, but later the whole epithelial lining becomes reduced in thickness from five or six layers to two or three. These stain poorly, and resemble the epithelial cells

TABLE I.
ASSOCIATED TUBERCULOUS LESIONS.

Source	Lung, per cent.	Kidney, per cent.	Genital tract, per cent.	Bones, per cent.	Glands, per cent.	Miscellaneous, per cent.	Tuberculosis found elsewhere, per cent.
Blanton, 699 necropsies, tuberculosis of lung	100	13	2	1.8	24	37	?
Braasch, 346, tuberculosis of kidney	27	100	73	6	6	?	71
Cunningham, 35, tuberculosis of epididymis	88	45	100	14	?	22	?
Keyes, 85, tuberculosis of epididymis	24	12.6	100	14	3.5	?	42
Barney, 11 children, tuberculosis of epididymis	45	9	100	36	18	18	?
Schoonover, 1912 to 1920, 128, tuberculosis of epididymis	29.6	40.6	100	14	5	?	65.6

of a kidney with toxic nephrosis. The elastic tissue of the membrana swells, producing a thick hyaline-like layer just beneath the basement layer of the epithelium, and is surrounded by a layer of fibrous tissue of varying thickness.

The two processes occur together, but the destructive, caseating tubercle predominates.

Fig. 1 (Case A331412).—Moderately advanced tuberculosis of epididymis and testis, showing scattered tubercles throughout the parenchyma, the majority near the hilus.

In the early and moderately advanced cases, the disease is grossly and microscopically more severe in the neighborhood of the corpus highmorianum than near the periphery. In cases in which regression or arrest of the process is observed, the tubercles are seen to become organized by the ingrowth of connective tissues; the caseous material is absorbed, and a dense fibrous scar largely replaces the loosely knit convoluted tubules and their supporting framework. The lumina of the tubules is very much compressed, if not organized and obliterated, the rings of swollen elastic tissue in the membrana propria marking their location. The healing seems to occur in the reverse order to the invasion, first in the body of the testis, then in the corpus highmorianum, and then in the epididymis; it is easy to conceive that the arrest is but temporary.

Groups of dark-staining cells are noticed in the fibrous tissue between the degenerated tubules, especially in the healing process; these are the interstitial cells responsible for the hormone of the testis. They seem to grow in groups and cords, as if to replace those destroyed in the course of the disease.

The tunica albuginea seems singularly resistant to the disease. Even when the whole parenchyma of the testis is a cheesy mass, it may still remain intact, although in a few cases it is destroyed. It is often greatly thickened, especially in cases of orchitis fibrosa. The ten scrotal fistulas observed in this group all originated from the lower pole of the epididymis, although the corpus highmorianum and part of the parenchyma of the body of the testis had sloughed out through the scrotal fistula in several instances.

The tunica vaginalis was studded with miliary tubercles in one instance, in which case there were also slight edema of the supporting structures and a few small petechial hemorrhages. In one case, the tunica vaginalis was greatly swollen and edematous, and in another case it felt like myxomatous material, but no tubercles were seen. In several instances it had been obliterated.

Spermatogenesis is affected by two factors —obstruction of the efferent ducts and the elaborated toxin of the *bacillus tuberculosis*, even before the actual destructive process reaches the seminiferous tubules. The obstruction may occur in the vas deferens,

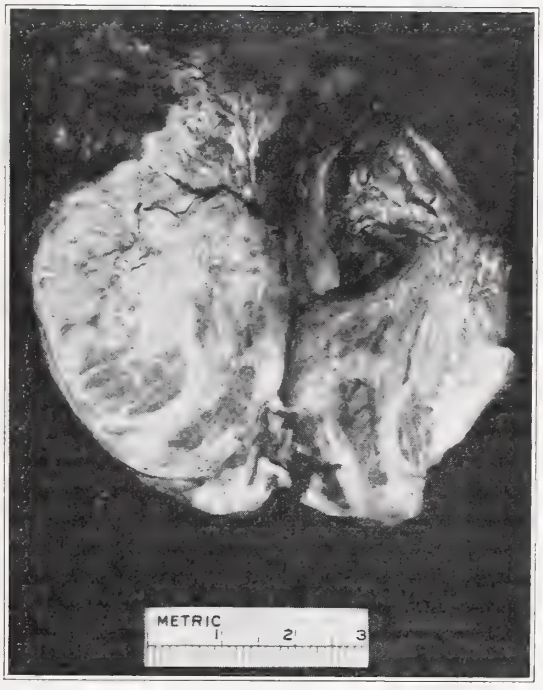

Fig. 2 (Case A27209).—"Orchitis fibrosa." Healed tuberculosis. Marked increase in the fibrous supporting septums and tunica albuginea.

where the lumen becomes filled with the degenerated epithelium and organized as a fibrous plug. The duct of the epididymis is readily obstructed, and is undoubtedly the most frequent site for the obstruction. The smaller tubules in the corpus highmorianum

are even more readily obstructed, but by the time the process has reached this area, obstruction of the vas deferens, or epididymis is very likely to have occurred. There were two instances in which, with moderately advanced tuberculosis of the epididymis, corpus highmorianum and the parenchyma of the testis, spermatozoa were seen in the lumen of some of the seminiferous tubules. In these cases it was possible to trace a patent duct system from the parenchyma through the corpus highmorianum and epididymis. Apparently patency of the duct system will allow the spermatogenetic process to go on so long as the second factor (the toxin elaborated by the *bacillus tuberculosis*) is not acting. The toxin caused rapid degeneration of the spermatogenetic epithelium in areas well removed from the tubercles, even where the swelling of the elastic layer of the membrana propria was scarcely noticeable.

It should be emphasized that tuberculosis in the epididymis or testis, is usually accompanied by tuberculosis in the vas, seminal vesicle and prostate. Radical removal of the tuberculous lesions in the entire genital tract has been advocated, but not generally practiced, since it has seemed too great a risk for the patient and is probably of no more value than conservative measures.

The radical operation has been found necessary at the Mayo Clinic in only 8 (3.9 per cent) of 205 patients operated on for genital tuberculosis from 1905 to 1920, inclusive. Epididymectomy alone, unilateral or bilateral, has been performed in 108 cases (52.6 per cent). Epididymectomy or castration, or epididymectory and castration, has been performed in 190 cases (92.6 per cent). It was necessary to perform secondary operations on 44 (21.4 per cent) of the 205 patients. From these data it is very evident that the more frequent performance of seminal vesiculectomy or prostatectomy, is not indicated.

Braasch says that "acute suppuration in the prostate and seminal vesicles in tuberculosis is unusual. Surgical treatment of the tuberculous prostate is indicated only in certain cases of protracted vesical irritation, or in the presence of extensive suppuration." It is common knowledge that in the majority of cases, following epididymectomy, or castration, the secondary foci in the prostate and vesicles will heal and become cicatricial.

CONCLUSIONS.

1. Tuberculosis of the testis is but one manifestation of a general tuberculous infection.

2. Tuberculosis of the kidney and of the genital tract are often associated.

3. The epididymis is commonly the primar focus of tuberculosis in the genital tract.

4. The testis is usually infected from th epididymis, but may be infected through th blood stream in general miliary tuberculosis

5. The disease is first seen in the body o the testis, and is most intense around th hilus.

6. The spermatogenic cells are destroye by the toxin and by obstruction of the ducts

7. The interstitial cells which elaborat the testicular hormone seem to possess som power of regeneration during the healing o the disease.

8. Healing of the tuberculous testis doe occur, but may be only a temporary arres of the process of destruction.

9. Conservative surgery is indicated i this disease, with few exceptions.

ABSTRACT OF DISCUSSION.

Dr. H. L. Cecil, Dallas: Dr. Schoonover's belie on this subject does not correspond with min Tuberculosis of the genito-urinary tract must b secondary to foci elsewhere. In far the majority o the cases I have seen, the disease was not confine to the epididymis and testicle on one or both side but was present in the prostate and seminal vesicle as well, and even the kidney in a large proportio of cases. The disease is then a generalized tuberc losis, and if treatment is to be given by operation should be as radical as possible. There is little log in removing by operation parts of a diseased orga unless leaving the parts is necessary to life.

From the cases I have seen, and from a rathe exhaustive review of the literature, I believe tha tuberculosis of the epididymis and testicle is pra tically always secondary to tuberculosis of the pro tate and seminal vesicles. It has been the experienc of many that when a tuberculous epididymis removed on one side, the other side is attacked b the disease. This is shown by the statistics fro most of the large American and European clinic They explain such recurrences of the infection in th opposite epididymis by the fact that the disease not primary in the epididymis or testicle, but prima in the seminal vesicles or prostate.

The operation of seminal vesiculectomy and parti prostatectomy is not as difficult as some believ and if it is, this does not constitute an excuse f not doing it, provided it is best for the patient. an operation is to be done in such a serious disea as tuberculosis, the procedure should be sufficient thorough to remove the diseased parts. The immed ate mortality from removing the genital tract is n high, and from the statistics available it seems give a far better chance of cure than the simple ar easy removal of the epididymis or testicle alone. B removal of the genital tract it is not understood tha it is necessary to remove the testicles—which rarely the case.

Dr. A. O. Singleton, Galveston: I think the mo interesting part of the paper is that relating to th pathology. The author has called attention pathology that probably has not been brought o before, that is, the effect of the pathological chang upon the testicle itself. While this may not be great interest or value in the matter of prognos or management, I commend very much the wo that has been done. We know that prognosis is a to be difficult in tuberculosis of the testicle as we as tuberculosis of probably every other organ

the body, and we should not expect too much until some method is used by which tuberculosis as a whole may be prevented or cured.

As to treatment, that will depend upon the individual case. Unquestionably a patient with tuberculosis of the seminal vesicles, whose infection is confined to the vesicles, or prostate, should have a radical operation, but I don't think it advisable to attempt a seminal vesiculectomy upon a patient who is suffering from tuberculosis which apparently has not extended further than the testicle. Simple removal of the testicle is the only thing that should be attempted.

Dr. E. H. Bursey, Fort Worth: There is one appeal I would like to make, and that is early diagnosis, because in the early diagnosis we can do a conservative operation and one that will not necessarily be serious to the patient. Heretofore the operations have been rather radical. We well know that if the process has not extended out in the testicular substance, removal of the diseased portion and not complete castration, will give the same result as castration, and we also well know that many cases will clear up and have no further trouble. I might relate one case: A patient had had tuberculosis of one testicle. The testicle was completely removed and there was a recurrence in the other, and it was completely removed. I got hold of him and did a testicular transplant four years later, and it had surprisingly good results. That was five years ago. He reports excellent results, and the transplant is still easily palpable, about the size of a dove egg. That is one point I would like to add to the paper —if castration is necessary, try to do a transplant, because it certainly does have a good effect on the patient's mentality, if for no other reason.

Dr. Frank S. Schoonover (closing): Dr. Cecil's attitude towards radical surgery in tuberculosis of the genital tract is a very natural one, following his association with Dr. Young. The proper attitude, however, seems to me to be an estimation of the particular needs of each patient. Dr. Young's series of fifteen cases, in which the radical operation had been performed, does not overbalance the opinion held by the majority of urologists, based upon their experience that conservatism is indicated in this disease. The fact that tuberculosis is a constitutional disease makes all surgery certainly palliative and very doubtfully curative.

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PAY YOUR DUES NOW
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LOCAL ANESTHESIA IN UROLOGICAL SURGERY.*

BY

ALBERT O. SINGLETON, B. S., M. D., F. A. C. S.,
GALVESTON, TEXAS.

With the improvement in the safety and efficiency of anesthetizing drugs, the field of usefulness of local anesthesia is rapidly extending. It is invariably the rule that the more one uses local anesthesia, the better one likes it. This is because there is a personal satisfaction in the knowledge of anatomy one

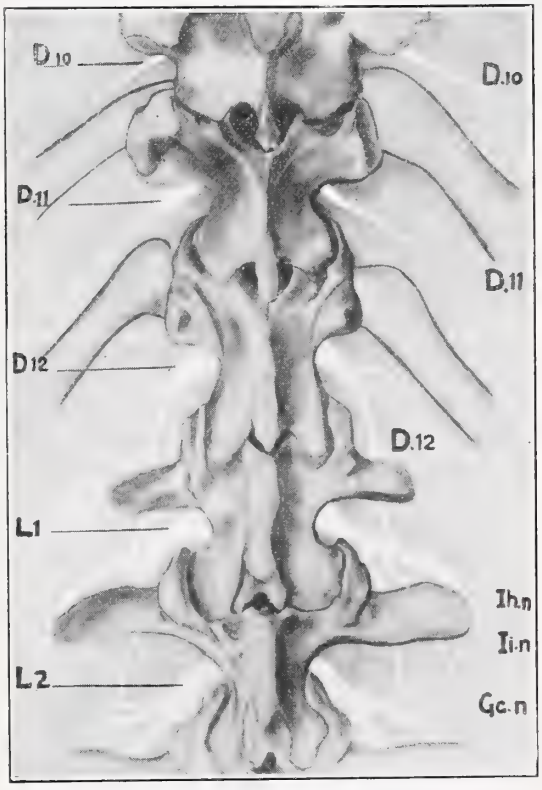

FIG. 1. Spinal nerve roots as they emerge from intervertebral foramina.

is forced to gain in order to recognize structures in performing anatomical operations.

The plan of anesthetizing the field of operation by destroying the conductivity of the nerves some distance away, is found advisable when possible, rather than infiltrating the tissues to be traumatized. The plan of destroying the sensation by injections proximal to the operative field is called "nerve blocking." This does not mean that local infiltration is not to be used; on the contrary, the dermal injections are indispensable and should always precede the deep injections.

Some regions of the body lend themselves more readily to this form of anesthesia than

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others, due to the accessibility of the nerve trunks. The entire genito-urinary system lends itself quite conveniently to local anesthesia. Illustrations showing the nerve supply and a description of the methods of

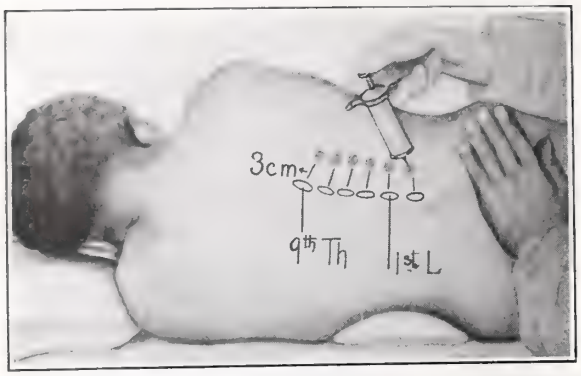

Fig. 2. Cutaneous wheal at the site of needle puncture for blocking spinal nerve trunks.

producing anesthesia for operations upon the various genito-urinary organs, are given.

The sensation of the kidney comes from the ninth, tenth, eleventh and twelfth spinal nerves, with their anastomosing sympathetic branches. These nerves may be blocked just after they leave the intervertebral foramina, between the transverse processes of adjacent vertebra. In the lower dorsal region the

Fig. 3. Sacral injection.

space is opposite the upper border of the tip of the spinous process of the vertebra corresponding to the space, while in the lumbar region the space is directly opposite the center of the spinous process. By making the injection of a 1 per cent solution of novocain, 3 c.m. from the midline, and from 4 to 5 c.m. deep, the nerve will be blocked as it traverses the space. A small wheal of solution is made at the point located on the skin, and then a long needle is inserted directly beneath until the transverse process is felt. Then the needle is inclined upward or downward into the space, and further past the transverse process for 1 c.m., which will be in close proximity to the nerve trunk. If the injection includes the tenth, eleventh and twelfth dorsal and the first lumbar nerves, it means the anesthesia of the abdominal wall as well as the kidney, and the ureter on the corresponding side.

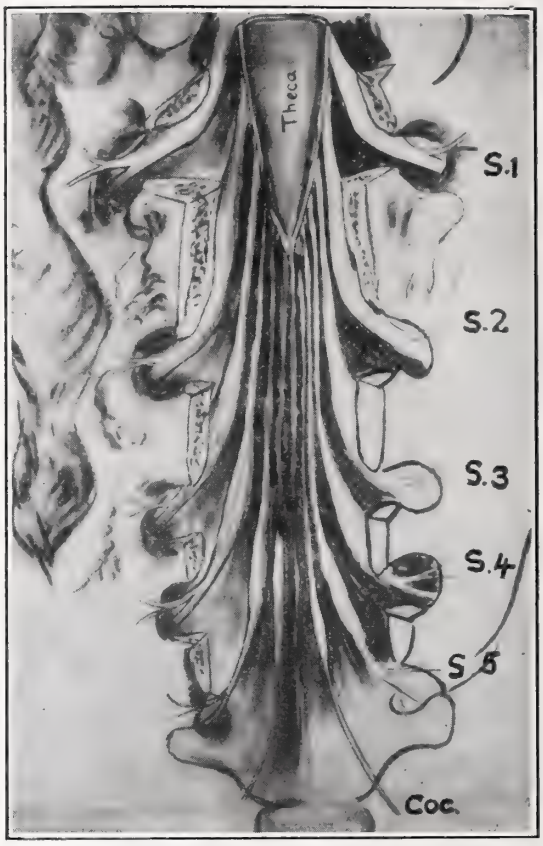

Fig. 4. Drawing of dissection of sacral canal.

The nerve supply to the *bladder, prostate* and *external genitalia,* is derived from the sacral nerves, from the second downward, except for the skin of the penis and sides of the scrotum, which is derived from the ilio-inguinal, genito-crural and small sciatic The pudic nerve, which originates in the pudendal plexus, passes through the great sacro-sciatic foramen into the ischiorectal fossa. Here it gives off the inferior hemorrhoidal nerve and goes on to the base of the triangular ligament, dividing into its terminal branches, the perineal nerve and dorsal nerve of the penis. The latter supplies the penis, except for the skin. The skin of the scrotum is supplied by the perineal branches and the inferior pudendal branch from the small sciatic, the crural branch of

the genito-femoral and the ilio-inguinal on the sides and anterior surface, while the nerve to the skin of the penis is from the ilio-inguinal and hypogastric terminals.

Except for the skin and muscles over the bladder and the skin of the penis and sides of the scrotum, the entire genito-urinary system, distal to the ureters, is anesthetized by blocking the sacral nerves from the second downward. There are three well known methods of doing this: First, the trans-sacral block, which requires the introduction of a needle into each sacral foramen on either side, which is, upon the face of it, too difficult and uncertain to be practicable; second, the presacral block, which consists of injecting the nerves in front of the sacrum on either side, by inserting a long needle lateral to the coccyx, passing it up into the hollow of the sacrum; and third, the sacral block, commonly termed caudal block. One of the first two methods is much preferred, particularly the second, by most European surgeons who use local anesthesia extensively, the last named method being the least popular. Labat states ("Regional Anesthesia," Saunders & Co., p. 279), "It is inferior in quality to that obtained by the trans-sacral or the presacral block, owing to the low permeability of the nerve sheath at that level." Allen, of New Orleans, in discussing the method some years ago, stated that it was uncertain and could not be depended upon. I do not know what his opinion is now. In April, 1916, I read a paper before this Association, describing my experiences with sacral anesthesia, which was published in the TEXAS STATE JOURNAL OF MEDICINE, August, 1916, at which time we had had an experience of over 80 injections. At the present time we have used this form of anesthesia in more than three hundred instances. Each year we become more enthusiastic about it, and now unhesitatingly recommend it as the anesthetic of choice, and extremely satisfactory for the following conditions or operations: Prostatectomy, either perineal or suprapubic; bladder tumors or stones; cystoscopies in painful bladders, or operations through the cystoscope or urethroscope; external urethrotomy; amputation of the penis for cancer; cauterizations and plastic operations upon the penis; cystocele; rectocele; amputation and cauterization of the cervix; hemorrhoidal operations; fistula-in-ano, and stricture or cancer of the rectum.

Failures have been very few, even from the beginning, and at the present time success is definitely expected in all cases. The technique given in the article above referred to has been changed but little. Early in our experience we were inclined to give too little time for completion of anesthesia before beginning the operation. Now, I prefer to give the injection in the patient's bed before he is sent to the operating room, allowing 30 minutes to elapse before operating. The patient is allowed to lie upon his right side, and care is taken to anesthetize the skin and the fascia over the hiatus with a small needle before inserting the larger needle. The needle need not go more than one inch within the canal. Should spinal fluid appear when the stilette it withdrawn, the injection should not be made at this time. If the solution is injected slowly a weak feeling, experienced by a few patients, is avoided. Six grains of novocain to the ounce of solution is now used, where formerly we used 5 grains.

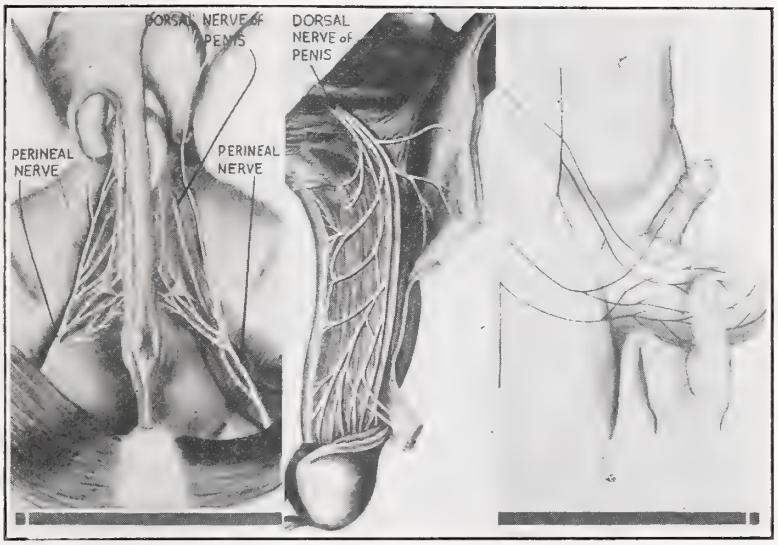

FIG. 5. Perineal nerve supplying nerves to the scrotum, and continuing on to form the dorsal nerve of the penis.

FIG. 6. Dorsal nerve of the penis, supplying the body of the penis and distal foreskin. Blocked within Buck's fascia.

FIG. 7. Nerves supplying cutaneous sensation to the scrotum and penis.

Operations upon the scrotum, testicles and spermatic cord (castration, varicocele, epididymotomy, hydrocele) are preferably done under local anesthesia, with the following technique: The spermatic cord can be picked up between the fingers, just outside the external abdominal ring, and a few drachms of solution (¼ of 1 per cent) injected within its sheath. Then a subcutaneous line of infiltration is made around the base of the scrotum. This procedure results in complete anesthesia of one-half the scrotum and the testicle. By

repeating this procedure on the other side the entire scrotum and its contents become insensitive.

Anesthesia of the penis demands the blocking of two groups of nerves. A small wheal of solution around the base of the penis subcutaneously blocks the ilio-inguinal, which supplies the skin, and the injection of from

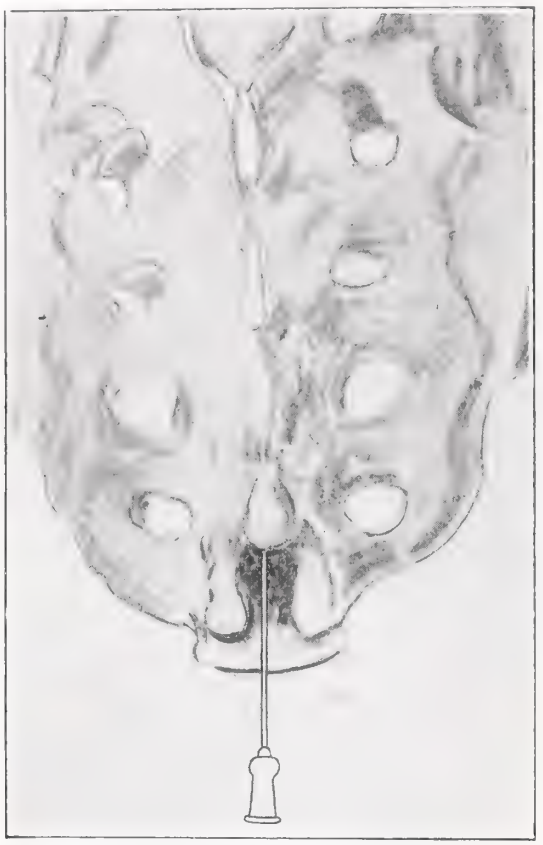

FIG. 8. Sacrum, with needle in place.

1 to 2 drachms of solution within Buck's Fascia, inside the corpora at the root of the penis, blocks the branches of the dorsal nerve of the penis. With a small needle only one penetration of the skin is required for the complete injection. I have found this more satisfactory than injecting the dorsal nerve of the penis at the root of the cavernose body at the suspensary ligament (a method often advocated). We find extensive use for this blocking in chancroidal infection about the glans penis, often with phimosis or paraphimosis, which require cleansing and extensive cauterization. Also, plastic operations for hypospadias or amputation of the penis for cancer, are preferably done with this anesthesia.

ON TO SAN ANTONIO

SUPRAPUBIC PROSTATECTOMY: A STUDY OF SEVENTY CASES.*

BY

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TEMPLE, TEXAS.

The recognition of prostatic obstruction a a cause of urinary stasis dates back to th beginning of the eighteenth century. Th various methods used to relieve this obstruc tion are of historical interest only, as no sat isfactory technique was developed until 1895 when Eugene Fuller of New York, publishe a paper fully describing his method o "Subrapubic Total Prostatectomy." The ide of radical removal of the prostate gland wa not received by surgeons with any grea amount of enthusiasm until 1901, when P. J Freyer, an English surgeon, published a sim ilar method and reported a number of cases Freyer's claims to priority in perfecting thi operative technique, were hotly disputed, no only by Dr. Fuller, but by Ramon Guiteras who had employed Fuller's method with a slight modification of his own for severa years before Freyer published his first case as well as a number of English surgeons who objected to Freyer's "assumption of almost everything in sight in connection with pros tatectomy."

This controversy served to draw attention to the operation. Many surgeons undertook the perineal method, and were frequently successful in removing the prostate. The operative details were carefully worked out by Hugh H. Young, who, in 1903, reported a large series of cases with a very low mortality rate. The literature on the subject is now very extensive.

Without going into the question as to the relative merits of suprapubic and perineal prostatectomy, I wish to report a series of 70 suprapubic prostatectomies that occurred in our service at the King's Daughters Hospital. Most of the patients, referred to us for surgical treatment, gave histories of bladder trouble, the duration of which varied from two months to twelve years. The average duration of urinary disturbance was four years. As to the ages of the patients, 3 were between the ages of 40 and 50; 11 between the ages of 50 and 60; 36 between 60 and 70, and 20 between 70 and 80. The youngest patient was 42 years old, and the oldest 81. Taken collectively, their general physical condition was very poor; four of them had to be restrained in bed.

As one of us had received training under Dr. Eugene Fuller, it is quite natural that we should employ the technique which ap-

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 9, 1923.

proaches the prostate through a suprapubic incision. The simplicity of this method has always appealed to us, especially because so many of our cases demanded drainage—cystotomy, on account of uremic toxemia.

If one wishes to be successful in prostatic surgery, special attention should be paid to preparing the patient for operation. Postoperative treatment is even more important. The pioneers gave very little heed to preparatory treatment and as a result their mortality rate was high. Of all cases referred for surgical treatment, there are none that require such careful investigation and study. We should first obtain a full history, which should be carefully correlated with the physical examination. So informed, we will be able to determine the extent of the patient's powers of resistance, and estimate the operative risks. Before attempting any operation it has been our custom to have a competent pathologist make a complete blood and urinary analysis.

The work of Rowntree and Geraghty, on phenolsulphonphthalein, taught us the importance of estimating the functional capacity of the kidney, and for many years we depended largely upon the excretory test. Although this test has been quite satisfactory, there are so many factors influencing excretion that considerable variation has at different times occurred. For the past few years we have laid less stress on excretion and more on retention; particularly in regard to blood urea, creatin and uric acid. We find the blood tests are more stable and a better guide in prognosis. By the employment of these tests we are easily able to separate the good operative risks from the poor ones. The blood-urea-nitrogen in the series here reported, varied from 16 to 60 mg. per 100 c.c. of blood, the average being 28.

In expressing a preference for the blood tests, we do not mean that excretory tests should be discarded. The estimation of relative kidney function is absolutely necessary in renal or prostatic surgery, and of all tests the phthalein is our preference. When phthalein was injected intravenously its average time for initial appearance was 18 minutes; 25 per cent was excreted in the first hour and 20 per cent in the second hour.

After we have obtained our clinical and laboratory findings, a thorough study of the obstruction is made by rectal and cystourethroscopic examinations, and if, as suggested by MacJohnson, cystograms are routinely made, numerous embarrassing postoperative failures will be avoided. Many patients with prostatic obstruction reporting for examination, apparently in fair health, are really on the verge of a renal breakdown, with its sequence of urinary suppression and death. In this series, 35 patients (50 per cent) reported to us with retention of urine, varying in amounts from 100 to 1000 c.c. The average amount of residual urine in all cases was about 300 c.c. Albumen, blood and pus, were found in the urine in 55 cases, blood in 9 and clear urine in only 6 cases. The blood count varied from 5,600 to 48,000 leucocytes, the entire series having an average leucocyte count of 12,100. In many of these cases strychnine and digitalis were given as a supportive measure, and the patients were encouraged to take an abundance of fluids in order to increase elimination. Special attention was paid to the intestinal tract, and every effort made to improve the general condition, so the obstruction could be removed with the least pain and inconvenience. Our object should always be to restore function, and this can only be accomplished by close observation and the strictest attention to details. When these patients are admitted to the hospital it has been our custom to place them in bed for several days and to catheterize every few hours. Leaving the catheter in position may be a good procedure under some conditions, but it has been very unsatisfactory in our hands. Repeated catheterization reduces the amount of residual urine, permits the bladder to resume its normal tone and relieves the back pressure upon the kidneys. When cystitis is present the catheterization should be followed by daily irrigations of some mild antiseptic solution, and the administration of sodium acid phosphate and urotropin up to the day of operation.

By the time the patient's general condition has improved sufficiently to warrant a suprapubic cystotomy, the operation can be very easily accomplished under local anaesthesia, and in nervous and irritable subjects morphine and scopolamin may be advantageously administered. The field of operation having been prepared and thoroughly infiltrated with a weak solution of novocain, an incision is made in the midline, beginning about one-half inch above the symphysis and extending two inches or more. The recti muscles are then separated, exposing the prevesical fat. At this stage an assistant passes a prostatic catheter and the bladder is filled with a weak antiseptic solution, the resulting distention aiding in locating the anterior fold of the peritoneum so that it can be pushed beyond any chance of injury. Anchor sutures are now passed on each side and an incision is made high on the bladder wall, so placed that the opening will not be behind the symphysis when the bladder contracts. This opening can readily be stretched or torn sufficiently

to admit one or two fingers for exploration. The reason for stretching or tearing is that healing takes place more rapidly than when cutting is resorted to. A large rubber tube is stitched snugly in place, care being taken to see that it does not rest on the bladder wall, and the anchor sutures are firmly tied, so as to hold the bladder in contact with the abdominal wall. The upper and lower ends of the incision are packed with gauze, giving nature an opportunity to "cofferdam" the tissue and prepare for prostatectomy.

After a few days of rest in bed the patient is permitted to get up in a chair. He is kept under observation until he reaches the height of improvement. A gradual change in the clinical condition will be noted, which should always be confirmed by repeated laboratory tests. Some cases are relieved of toxemia in ten days. One of our patients developed a streptococcic urethritis, with a profuse discharge, following cystotomy, but after draining for 179 days, he was successfully operated upon. The average time between cystotomy and prostatectomy in this series was twenty days.

When it is decided to proceed with the operation of prostatectomy, the patient is given a narcotic one hour before operation, as in cystotomy. The field of operation is prepared and the abdominal sinus thoroughly infiltrated with a weak solution of novocain. Ether is slowly administered, to the stage of relaxation, and the enucleation proceeds as follows: The prostate is supported in the rectum by two fingers of the gloved left hand. It will be found that using two fingers instead of one makes the enucleation very much easier and more thorough. The index finger is inserted in the internal urethral orifice, and if the catheter has not been withdrawn it may serve as a guide. The path of least resistance will lead the finger to the capsule, and it may be possible to follow the same line of cleavage across the midline and remove the prostate *en masse*. This is easy in the adenomatous cases. It becomes more difficult in proportion to the amount of fibrous tissue that has developed. The malignant cases are the most difficult. In such cases the prostate frequently must be taken out in small pieces. After the excision of the gland the bladder is irrigated to remove all clots, the prostatic cavity is packed with plain gauze and a watch maintained for a few minutes to observe any hemorrhage. If there is a tendency to hemorrhage from the torn edges of the mucous membrane, it may be controlled by packing the cavity with a Kephalin gauze strip, bringing the end out beside a large rubber tube, which is stitched in place. Fortunately, we have not very often been compelled to do this, as we have taken note of the coagulation time of the blood before operating. No attempt is made to irrigate in these cases, until after the removal of the tube on the fourth or fifth day. If postoperative convalescence is smooth the patients will be passing urine about the twentieth day.

It would be impossible to operate upon such a number of old men, with a smooth convalescence in each instance. In about 24 per cent of this series of cases there were postoperative complications, distributed as follows: Five had more or less hemorrhage; one was uraemic; one had urethritis; two had orchitis; two had phlebitis; two were cardiorenal subjects; two had pulmonary complications, and two were slightly strictured.

In this series, seven simple suprapubic cystotomies were performed. (Two of these patients died in the hospital), the remaining sixty-three patients submitting to prostatectomy. The average time of confinement in all cases was fifty-three days. Eight deaths occurred in the hospital, a mortality of 11.4 per cent. The causes of death were as follows: Uremia, three; heart-block, one; hemorrhage, one; shock, one; peritonitis, one; cardiorenal complications, one. A questionnaire was recently mailed to all patients discharged from the hospital, and we have heard from all except one. Thirty-seven are enjoying good health and have no urinary disturbances; five are in fair health but complain of more or less frequency of urination at night, and nineteen have died since leaving the hospital.

SUMMARY.

1. The patients in this series, taken collectively, may properly be considered bad surgical risks, and for this reason the two-stage operation was performed.

2. Our total mortality rate was 11.4 per cent. Two deaths occurred following cystotomy under local anaesthesia; one died eight days after cystotomy, and the other died on the twenty-third day, so our *prostatectomy death rate* was 8.8 per cent.

3. The early recognition of urinary disturbance in men past fifty is greatly to be desired. By the employment of prompt measures they may be restored to health while still physically fit.

ABSTRACT OF DISCUSSION.

Dr. A. E. Chace, Texarkana: We have had one death from the use of a small amount of novocain, and we always inject a small amount about two or three hours before the operation, to see if there is any idiosyncracy.

Dr. M. F. Bledsoe, Port Arthur: The prostate cases I get hold of are desperate cases. I remember some years ago I had a prostate, it was during the lifetime of one of our confreres who happened to be a German, and he was very expressive—more

expressive than elegant, probably—and he said, 'Bludsaw, you stay off dem damned old prostates—dey die like flies—don't you operate that man." And I said, "I am not going to operate." Recently, I had a case that was quite desperate. I had to content myself with introducing a large rubber tube, and the nurse at intervals of every two or three hours would phone me that my tube was out of the bladder, and that gave me no end of trouble, because my night's rest had been broken repeatedly. I introduced a soft rubber catheter, fastened it to my larger tube, and then drew my large tube into the bladder. That, of course, wouldn't be good practice unless you had a bladder that was full of blood and pus and such a serious case as this, but I am clearing this man up by constant irrigation. I did that to save myself some little trouble and get some rest at night. These cases task the surgeon's ingenuity, and require nicer surgical judgment, perhaps, than almost anything else which confronts the surgeon. I think the doctor's estimate when he first sees the case, and his observation of its progress constitutes a good guide, unless he has access to a very competent laboratory —this, I think, the very best guide. It certainly has been to me in the few cases I handle.

Dr. A. O. Singleton (closing): I wish to say just a word in regard to Dr. Pollok's paper, in regard to the two-stage operation. The drainage of the bladder by a suprapubic tube to me has three advantages. In the first place, it unquestionably will help a badly infected bladder to get better; in the second place, it will naturally relieve any back pressure that may be upon the bladder and kidneys, and this pressure being relieved over quite a period of time will accustom the patient to having the bladder emptied. If you have a patient with an enlarged prostate, though his bladder is clean and there is some retention of urine, when you suddenly relieve this pressure and also subject him to a radical operation, he is going to suffer more shock and more discomfort than he will if his bladder has been emptied from drainage for a while by an indwelling tube. The third advantage is that the patients become tolerant of this tube in the bladder. I don't know how to explain it, except the fact is, these patients who have had a tube in the bladder for quite a while do not have an irritable bladder, and the pain for the first few days after operation is much less than those whose bladders are opened without having a preliminary drainage. I feel that they develop a tolerance. Instead of making a two-stage operation our practice is to put the tube in with a trocar. We have a specially constructed trocar and cannula, which takes a number 22 catheter. We inject a little novacain into the skin and then jab the trocar in the bladder and put in the tube which is stitched to the abdominal skin. This tube will not leak. If you want to let the urine flow gradually, and gradually release the pressure, which is sometimes thought to be advisable, you can clamp the tube.

In closing the discussion upon my paper, the question as to whether we use adrenalin in the solution, I will answer by saying we have been in the habit of using novocain, which has suprarenalin in it, and having the same constrictive power upon the blood vessels as adrenalin. When using the powdered novocain, then adrenalin should be used. We have had no evidence of any toxic effect from novocain or any idiosyncracy of patients manifested. It is possible that there are people who have idiosyncracy to this drug, and I am sure the suggestion is not a bad one. We generally do not test sensation before we start them to the operating room, as we feel so sure of the result, and it has been a long time since we have found the patient was not anesthetized.

Dr. Pollok (closing): I want to thank the gentlemen for the discussion of the paper. In reference to what Dr. Thompson has to say concerning the two-stage operation, perhaps we have been carrying the two-stage operation a little bit too far. In this series of seventy cases we had only six cases that had clear urine. Perhaps in a few of these we could have done a primary or one-stage operation. In our early work we were doing a one-stage operation, but we found out that we were having too many secondary infections and losing too many patients. The retention of urine varied from 100 to 1,000 c.c., or an average of 300 c.c. The object of all of this treatment is to get the patients physically fit for an operation. There is nothing prettier than a one-stage operation. If any of you have been to the Mayo Clinic recently and have seen the suprapubic operation performed there, I am sure you will be carried away with the technique.

We have not been able to get that class of cases. The patients in our series taken collectively were considered bad surgical risks. Nearly all of them had blood and pus in their urine, and for that reason we have had to follow the two-stage operation. If we get suitable cases we expect to do the single or one-stage operation more in the future than we have in the past. We have used ether to the stage of relaxation in most of our work. In a few cases we have employed sacral and parasacral anesthesia with fairly good success. We have depended on a one per cent solution of novocain, but we are going to profit by Dr. Singleton's remarks and use a stronger solution of novocain and see if we can get better results.

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Spahlinger Treatment for Tuberculosis.—Spahlinger is a resident of Geneva who received medical training but took his degree in law. Later he abandoned law for research work. The Spahlinger treatment makes use of vaccine and serum therapy. The theory from which the treatment is evolved is that the tubercle bacillus emits different toxins under varying conditions of temperature, environment, etc. Many of these are claimed to be isolated as either exotoxins or endotoxins. The vaccines—of which there are said to be about twenty—are used for prophylaxis for treatment of the milder cases of tuberculosis and for the production of the various serums used in the treatment of the more severe cases. It has been reported that the British ministry of health is prepared to encourage the experimental trial of the Spahlinger preparations under scientific supervision. The British Red Cross has appropriated money to enable Spahlinger to work on a larger scale in the production of his preparations. The reports in regard to the efficacy of the preparations which have appeared in British medical journals are conflicting, and the Red Cross organization has made it clear that the products are in the experimental stage.—*Jour. A. M. A.*, December 1, 1923.

A BRIEF RESUME OF THE HISTORY AND PROGRESS OF MEDICINE.*

BY

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The practice of medicine is as old as the history of the human race. The history of medicine is really a history of human error and human discovery. During the last two thousand years it is hard to say which has prevailed. However, in the last century or two, science and discovery have made wonderful strides in overcoming error.

Aesculapius is called the God of medicine. His daughter, Hygiea, is called the goddess of health; hence the word hygiene, which means so much in this progressive age. Hippocrates, the most famous among the Greek physicians, was born 400 years before Christ. His prescription for lung trouble, "Take a goat and go to the mountains," has been very little improved upon. Galen was a close follower of the teachings of Hippocrates, and was a noted physician in his day.

History informs us that in Egypt there are inscriptions on the tombs of the Pharaohs depicting surgical operations twenty-five hundred years before the Christian era. In early days headaches were cured by cutting holes in the skull. Trephining is the oldest surgical operation known. In biblical times there were physicians whom Job classed as of "no value," because they were unable to cure his ills. In the days of our Saviour, Luke was known as the "beloved physician."

Physicians were formally empirical and tried to *cure diseases.* We, in this day and time, try to prevent them. In the early days of medicine there were many charlatans and quacks, and I am sorry to say that we have made very little progress in this direction; we still have them with us.

In the sixteenth century William Harvey discovered the circulation of the blood. His predecessors thought and taught that the arteries contained air.

In the seventeenth century Edward Jenner discovered and promulgated the practice of vaccination as a preventive of small pox. He is considered one of the greatest benefactors of the human race.

Joseph Lister was also a great benefactor. It was he who introduced antiseptic treatment in surgery, which has saved many thousands of lives.

Crawford W. Long, a Southern physician, the discoverer of general anesthesia, deserves the gratitude of untold millions.

The discovery of diphtheria antitoxin wa the greatest blessing that has ever been b stowed upon childhood.

Of all the diseases which formerly depopu lated our Southern cities, yellow fever was th most dreaded. Scientific physicians dedicate their lives to humanity in demonstrating th fact that a certain kind of mosquito was th carrier of this dreadful contagion. By de stroying this mosquito we are able to elim nate yellow fever from the face of the earth

The art of obstetrics has attained a mos remarkable stage of development in the las two decades. This branch of medicine is be ing liberated from the bonds of surgery, an having attained recognition as a distinct de partment of medicine, has advanced rapidly The use of anesthetics to mitigate the pang of labor has been a wonderful boon to suffer ing motherhood. The skillful use of forceps when indicated, has saved the lives of man children, and shortened the duration of man tedious labors. The elimination of "Meddle some Midwifery," with strict attention t asepsis, has materially lessened the danger o puerperal fever. Pituitrin is a wonderfu agent in the treatment of post-partum hemor rhage, despite the harmful results from it indiscriminate use in labor. Cesarean sec tion has developed marvelously. This titl probably originated from the story of th birth of Julius Caesar, which history does no verify. The operation was first performe on the dead mother to save the living child The earliest operation upon the living o which we have authentic record, was abou the year 1500. In the sixteenth century an eminent physician reported the remarkable case of a woman who was six times delivered by this operation.

Roentgen, made famous by his discovery o the so-called *x*-ray, contributed much to sur gery. In 1860 Nieman discovered cocaine, o untold value in minor surgery. O'Dwyer's intubation sets have saved many little lives from suffocation. It would be impossible to estimate the countless thousands who died from appendicitis before McBurney instituted the operation for its cure. Before this, in our ignorance we frequently called the condition intussusception, locked bowels, peritonitis, etc. Now it is fashionable to have the appendix removed on the slightest provocation. We have made progress in the cure of cancer by early surgical operation, as well as by *x*-ray and radium treatment.

The achievements of Surgeon General Gorgas in combating malaria are something of which our Southland should be proud. He rendered the Panama Canal Zone habitable, where thousands died annually from malaria. Carrying out his methods strictly, there would be no more deaths from malaria.

*Read before the Section on State Medicine and Public Hygiene, State Medical Association of Texas, El Paso, May 11, 1922.

We have very few specifics in medicine. We know that quinine will cure malaria, that mercury will cure syphilis, sulphur will cure itch, and morphin will relieve pain.

This is the era of preventive medicine. The prevention of typhoid fever during our recent World War probably saved more lives than were lost in battle. Half the ills of the human race are caused by intemperance in eating and drinking.

When we have taught people to live properly, obey the laws of nature and the rules of sanitation, we shall have accomplished our mission, and there will be little left for us to do.

Oliver Wendell Holmes, who was for a long time professor of anatomy in Harvard Medical College, wrote a justly famous poem, "The Chambered Nautilus," from which I quote a beautiful tribute to the spirit of progress:

"Build thee more stately mansions, O my Soul!
As the swift seasons roll;
Leave thy low vaulted past;
Let each new temple, nobler than the last,
Shut thee from Heaven with a dome more vast,
Till thou at length art free,
Leaving thine outgrown shell by life's unresting sea."

MODERN HIGH TENSION LIVING IN ITS RELATION TO THE HUMAN MECHANISM.*

BY

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A few decades ago the attention of the profession was focused upon the infections as causes of disease and death. Happily, through the agency of preventive medicine the situation as concerns this class of maladies has been much improved. Now there is another blight abroad in the land. The so-called degenerative diseases have come to occupy the position which the infections formerly held. The pathogenic organism at work is the *Gold Bug,* and the new disease is *Americanitis.* It is the mad rush of the present day for pleasure, position and power. Let us review some evidence in support of this assertion.

Elsner, in the volume of "Monographic Medicine" which is from his pen, states that arteriosclerosis of the heart, kidneys and brain, is the cause in 22 per cent of deaths after the fortieth year.

Dublin, statistician for the Metropolitan Life Insurance Company, says that the death rate after the age of 45 is relatively higher than it was fifteen years ago. This statement is made after careful study of reliable statistics, including those from the U. S. Census Bureau. Figures from the registration area of the United States indicate that diabetes, cerebral hemorrhage, apoplexy, organic diseases of the heart and arteries, nephritis and cirrhosis of the liver, showed higher mortality rates in 1914 than they did in 1900. In 1914, they, as a group, claimed 58.7 per cent of the total mortality after the age of 45. Arterial diseases showed the highest increase, 454 per cent; diabetes, almost 76 per cent, and organic heart disease, nearly 45 per cent. A life insurance company of moderate size, doing business all over the United States, reports a total of 793 deaths among its policyholders in 1922. Of these, 134 were from heart disease, 51 from apoplexy, 58 from nephritis and 17 from arteriosclerosis, making a combined total from these causes of 260 out of 793 deaths, or 32.7 per cent. In other words, practically one-third of the total mortality was on a cardio-vasculo-renal basis. Taking into consideration the fact that these figures include deaths at all ages, it is probable that if we took as a group only those occurring at the age of 45 and over, the percentage would be even higher.

There are some interesting speculations in explanation of the higher mortality figures in recent years. One is that greater accuracy in diagnosis and death reports is responsible for the apparent increase. Some weight, no doubt attaches to this explanation. Dublin attempts to explain the increase on the basis of immigration. He holds that statistics show very little increase in mortality from these diseases among that portion of our population which represents the old native American stock; that the increase in mortality is due to a relatively higher death rate from these diseases in immigrants and the first generation of American born, and that these diseases take a particularly heavy toll from those Europeans who have furnished the greatest number of our immigrants during the last few decades. This theory may offer a partial explanation. The fact still remains that we, as physicians, are confronted by an increasingly serious proposition. These diseases are taking an ever greater toll of our population, whether the imported or home-grown product.

A recent writer in *The Journal of the American Medical Association* states that cardiac deaths are now double in number those from tuberculosis and cancer.

From contact, during the past five months, with some 300 practically normal individuals, mostly men between the ages of 20 and 50, my impression is that the average pulse rate of the American adult today is rather above than below 80. The impression was recently

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 8, 1923.

confirmed by a medical officer of the Army, who was on recruiting duty. This makes due allowance, I feel, for the nervous element. I was told by this officer that Army regulations allow acceptance of men for duty as privates who, in the reclining position, show a pulse rate as high as 100. Is it possible that such apparent laxity is necessary in order to keep the ranks full? I do not know. If so, it is a woeful comment on the physical condition of the average man applying for such service.

There are, however, some other considerations in explanation of the situation. Life is every year growing less natural and more artificial. The population of our country is fast becoming urbanized. Competition for a livelihood is growing keener and keener. Little time is being given to the production of values, and more to their commutation. Every man is trying to live off of his brother rather than from the soil—the great source of raw material and values. As this goes on, men and women are getting farther and farther from nature, and are seeking relaxation in the moving-picture shows, the cabarets and the card table. Nature is the great stabilizer of the human system. Tired men and women need green foliage, running water, the song of birds and the restful, invigorating calm of the great out-of-doors. But too little chance do the dwellers in our cities have to enjoy these things in sufficient amount to overcome the demoralizing effect of modern business and professional life. They lull themselves into a sense of false security with the idea that an occasional bit of exercise in the open air or hurried drive to the country, is enough.

Many men and women do not get enough sleep. They do not have time enough to sleep. They hurry through everything in order that they may hurry through the next thing. They consider that more than five or six hours spent in bed is wasted time. Through the day they are driven by the mad rush for a livelihood; at night they madly flutter about the bright lights, seeking relaxation which, in its real and fullest sense, they never find there. The violin must be unstrung; the locomotive must be allowed to cool off, but men and women imagine that they can disregard with impunity nature's most solemn and inexorable laws. Finally, they cannot relax. Study the faces of those whom you pass and those with whom you come in contact in the streets of our cities, in railway stations and on trains. They show the seams of care, the lines of worry, the scars of dissipation. Too many of them show premature senility. One can almost see the tension of muscles and nerves which have forgotten how to relax.

It is interesting and illuminating to knov in this connection, some of the habits of th present day business or professional mai He has drifted far asea from the simple lif of his forefathers. From the time he arise in the morning until near, or after the mic night hour, his life is one of constant hig tension. He uses his "fourth speed" in hi work, his play, his talk and his walk. Stud him at his noonday luncheon, as I have; liste to his order as he gives it to the waiter; watc him eat; overhear his conversation; observ his gesticulations! All is done with a reck less disregard for the laws of health. No only has he come directly from his desk, bu he has brought his desk with him. He is stil transacting business. Luncheon is his favor ite time for conferences of a special nature committee meetings and interviews with sale representatives and buyers. Luncheon, in stead of bringing relaxation as it should, i characterized only by a transfer of activity

Taylor says: "Conditions of fierce, franti competition, breeding as they do envy, hatred and malice; inviting to indiscretions in act in amusements, in food, in drink, irregularity in hours of sleep, inadequate forms and kinds of rest and exercise, form the foundation o and supply favorable conditions for pre senility. Hence it comes to pass that wher these unfortunates reach early middle ag they show the earmarks of overcombustion disintegration, cellular decline."

We are endowed at birth with a certain por tion of life-momentum. The ticket which nature gives us entitles us to a certain mileage through the years. If we run at excessive speed we complete the trip before the allotted time of three score years and ten. We are prematurely burned out, and death consigns the wreck to the junk pile. Arteriosclerosis is the process through which the body grows old. Arteriosclerosis means age, no matter what the years of its victim may number. Its etiology is the wear and tear of life. One man grows old in the counting-room, another in the club-room and still another in the din ing-room. Arteriosclerosis attacks by pre dilection that organ or set of organs most actively used. The legs of the laborer and washwoman, the splanchnic area of the over fed, underexercised society woman "whose god is her belly," and the kidneys, heart and brain of the business and professional man who is responsible for the world's work— these, respectively, are the areas of selection.

In the physician the tendency is toward coronary disease. Again quoting Elsner, all but one of the Vienna faculty who died in the two decades just before 1916, succumbed to coronary and myocardial sclerosis. In Amer ica, the number of physicians dying of cor-

onary or general sclerosis is surprisingly large. Contrast with this observation those of Benjamin Rush, who was one of America's most prominent and busy practitioners of the eighteenth century, who said, toward the close of his career, that he had seen but one case of angina pectoris in his whole experience. He quoted a prominent contemporary to the same effect.

Let me briefly cite a few cases from my personal files, which show the effect of modern high tension living on the human mechanism:

Case No. 1.—Mrs. M., a married woman, aged 54. A few years ago her husband, who was a merchant, failed in business, leaving debts aggregating several thousand dollars. He knew nothing else than the business in which he had been engaged, and could not re-enter that. His wife felt that it was necessary for her to assume the load, not only of supporting him and herself, but of paying off all financial obligations. She runs a tea-room and is on duty with a newspaper from nine o'clock in the morning until five or six in the evening. She drives about forty-five miles a day. The management of the tea-room must be provided for before she leaves home in the morning and after she gets there at night. She is doing too much. Her blood pressure is 160-110. She is approaching a physical breakdown. She must be relieved of a portion of her load.

Case No. 2.—S. W. K., a boy, 17 years old, a high school student, plays a saxophone in an orchestra three or four nights a week. He does not get to bed until early in the morning on the nights he plays. His complaint is a vague pain over the precordium and a twitching of the voluntary muscles. We see here the effect of high tension on a sensitively constituted mechanism, that of a musician. He must call a halt or he will hasten to a crash.

Case No. 3.—C. H. B., about 40, is a professional legislative representative for corporations, a high-liver, taking but little physical exercise. He sleeps on Pullmans about five nights out of each week, living the irregular life of a traveling man. He weighs about 215 pounds. His height is 5 feet and 11 inches. His pulse at rest is persistently over 90. He is beginning to show the strain.

We, as a nation, are becoming a race of early arteriosclerotic neurasthenics. There may be those who will challenge this statement. Let such go to the consulting rooms of physicians and see the procession which passes through. Let them sit beside the history tables and hear men and women recite their complaints. Let them read the death notices. Sometimes it is uremia which drops the curtain at the close of the drama of life; sometimes it is apoplexy; sometimes it is the slow hand of myocardial decompensation.

Where lies the remedy? How is the tide to be met? Is it not in the same way in which the white plague and others have been so successfully checked? Is there any better avenue of approach than public education? I heard a university president say, not long ago, "Give us the facts. We want them." Go to the public with the facts; show it the dangers; point the way out. What we Americans need today is a modern Cato, who will thunder forth from the platform the slogan of simple living. We need a Poor Richard of the *twentieth century,* to write an almanac of health and circulate it with a mighty hand through the length and breadth of our country. Moderation in everything is the sign by which we must conquer. Public education holds the key to the situation.

REMOVING THE BURDENS FIRST IN TREATING THE HEART.*

BY
J. S. LANKFORD, M. D.,
SAN ANTONIO, TEXAS.

The first essential in treating the impaired myocardium is to remove, so far as possible, any burdens that are impeding the circulation. The reasonable and humane thing to do is to first take off the load, and not to beat the weakened horse when he is doing his best. The heart should not be whipped up with digitalis, strychnia, strophanthus or spartein, when it is already carrying an impossible load. These burdens are of three kinds, material, mental and spiritual, and *all* must have attention in order to obtain the best results.

The material burdens are many, and some of them are of prime importance. One of the greatest loads the heart has to carry is low kidney function, with retention. If the phthalein test and chemical blood findings indicate low functioning power, it is surprising how much more effective digitalis is when preceded by fifteen grains of diuretin every three hours, until the kidney output is from 80 to 120 ounces a day. When there is already a heavy flow of urine of low specific gravity, diuretin will increase the elimination of solids and prepare the way for digitalis. It will usually be found in these cases that the urine is extremely acid, and that the relative blood acidity, as shown by the alveolar air test, is far above the normal. If so, three or four teaspoonful doses of bicarbonate of soda at two hour intervals are advisable before beginning the diuretin.

The condition of the skin stands second in importance. The skin should do 17 per cent of the work of elimination, but in certain conditions of endocrine disturbance, especially in hypothyroidea and hypopituitarism, it is very dry and disposed to spasmodic contraction, thereby raising tension and interfering with the flow of the blood through this vast area. It is easy to see how this can burden the heart. The same conditions affect more or less also the mucous membranes. Soaking the whole surface thoroughly for

*Read before the DeWitt County Medical Society, July 18, 1923.

ten minutes with warm oil, before a warm bath, relaxes spasm and increases action remarkably. Organotherapy may be necessary to restore endocrine function and remove resistance.

Another point of vital interest is severe constipation and intestinal auto-toxemia. The liver is kept in constant warfare against invading toxins and enemy bacteria, but ultimately it fails to function well, the blood becomes toxemic, and the heart poisoned and poorly nourished. A small nightly dose of mercury in some form is valuable. In this condition the colon bacilli may enter the blood through broken mucous surfaces, or through a diseased appendix. The blood will not tolerate them, and with rigor and fever they are thrown off and find lodgment in the kidneys, reducing the function of that organ and overtaxing the heart. A few doses of ten grains each of urotropin and sodium benzoate, or colon-staphylococcic-streptococcic vaccine may eliminate this factor, especially if preceded by soda saturation.

Impaired carbohydrate metabolism aggravates the nervousness, raises tension and adds to the burden upon the cardiovascular system. It is improved by reducing the carbohydrates, and by thyropancreatic glandular treatment. Impaired catabolism is also important. It yields to small doses of mercury and iodides. In this connection, should be mentioned minor acidemias and acidosis, and the great necessity of the judicious use of alkalis. It should be remembered that citrus fruit acids are converted into alkaline carbonates and help to correct the chronic acid tendency, and in this way promote function and relieve the burdens of the blood and the heart.

Focal infection may not only seriously injure the heart structure, but may impair all the functions of the body and lead to autotoxemia in addition to the infection, thus doubly embarrassing the heart in its work. The *streptococcus hemolyticus* from apical abscesses may not only inflame the myocardium, but it has a special tendency to disturb digestion, and even to lay the foundation for ulcer in the pyloric region. This, creating gaseous distention, interferes with heart action by pressure. This source of infection demands instant attention.

Of no less importance is an infection of the tonsils. From this focus the streptococcus may play havoc with the kidneys, affecting the heart secondarily. Then, too, endocarditis may occur, the inflammation extending to the whole heart structure, with or without arthritis. The cardiac burden from the streptococcus is varied and vast. Infections of the gall-bladder, appendix, prostate and the pelvic organs, should be considered. They may require surgical attention.

The ravages of the spirochaeta pallida call for specific treatment, of course, as ninety per cent of aortic cases are syphilitic. The tuberculous heart, like the tuberculous lung suffers from calcium deficiency and is benefitted by lime.

Influenza and other infectious diseases, and some autotoxemias, affect the blood-making organs seriously. Leucopenia, lymphocytosis, low hemoglobin and erythropenia are marked features. The heart suffers from poor nutrition, and from the toxic state that attends pleuriglandular inefficiency and low blood pressure, both of which are of vital import. The trend is toward cardiorenal disease. In this condition there is nothing comparable to organotherapy, and continuous, gentle stimulation of the liver by small doses of calomel at bedtime, together with a blood-building pill. This treatment restores endocrine function and stimulates the blood-making organs. The slow sinusoidal current applied to the cardinal points of the heart once a day, is a great aid in such cases.

Overexertion and tiring tasks should be avoided, but exercise that puts into action the nerve supply of the organs, or walking gradually increased, is highly beneficial.

If we would wake up to our greatest opportunity in caring for heart patients, we must realize the powerful influence of the mind over function. The ancients thought that the heart was the seat of the emotions, and they were justified in so believing, for it is profoundly affected by the state of the mind. The element of fear is extremely important and should be allayed by an exhaustive examination, and by the most positive assurance of safety. Worry, despondency, despair and wrong psychology, call for searching investigation of the patient's environment and associations, and the correction of errors as far as possible. Psychotherapy is of inestimable service.

If we stop to think we must know that even the spiritual side of life comes into play in cardiac therapy. The consolation of a man's particular religion—and all men are religious—the peace of it, the hope of it, the faith in the future and in all that is good, are inspiring; those emotions stimulate and stabilize function, promote the general welfare of the patient, and are certainly helpful. The physician, in addition to having a full knowledge of the material burdens and how to relieve them, must be a mental healer and a spiritual adviser when necessary, and must wisely direct his patient along lines that will lead to sound organs, good function, peace hope and longevity.

It would require too much time to say more than a few words about treatment, after the burdens have had attention. Digitalis is useful, chiefly in failing compensation. Digifolin is preferred, though many other preparations are used. Experience has proven that it is best to push digitalis fearlessly to the point of tolerance, which is usually reached about the fifth to seventh day. After two days' rest, treatment is resumed as before, and this is kept up until decompensation is relieved. If kidney function is low, the infusion sometimes serves best, and not infrequently the digitalis is fortified by ten or fifteen minims of adrenalin, hypodermically, twice a day, especially if the blood pressure is low. Digitalis is invaluable in auricular fribrillation, and there is no substitute. Quinidin is serviceable, but has its hazards; three grain doses of quinine sulphate serve well, and are without danger.

Decompensation requires rest in bed, but if rest is too prolonged the tone is taken out of the heart muscle. Some passive exercise should be commenced early, especially "pumping" the legs. The knee and ankle is grasped and the thigh flexed back upon the abdomen, and then brought down to rest for two or three seconds. This is repeated about twenty times a minute. This procedure has tided several of my patients over alarming crises, apparently saving them. Most patients do better by beginning some exercise in bed, gradually increasing it.

There is a heart that does not bear digitalis well—the one showing chronic myocarditis with low reserve power and heart block. In such hearts digitalis does not seem to serve any good purpose, but on the contrary increases the heart block, adding to the danger already present. In these and many other chronically impaired hearts, digitalis is rarely used.

It is astonishing to note the rapid improvement under a combination of some suitable pleuriglandular tablet three times a day before meals, a pill of iron, quinine and strychnine after the noon meal, with the treatment energized by a tenth or a twentieth of a grain of calomel at bedtime and a teaspoonful of sodium bicarbonate in the afternoon to prevent the acid tendency and facilitate function. Blood pressure approaches the normal; function is improved; toxemia is relieved; the hemoglobin rises ten to twenty points in a few weeks; the red cells increase one-half to one million, and the white count, which is of such great importance, quickly touches the normal. Then the myocardium will show a very gratifying increase in power, as revealed by the pulse pressure before and after handcar exercise.

SOME FACTORS IN CLEFT PALATE WORK.*

BY

H. L. D. KIRKHAM, M. D., F. A. C. S.,
HOUSTON, TEXAS.

Throughout the whole field of surgery, there are probably no operations that are more tedious, necessitate more perfect technique, and are more often poorly done than those of cleft palates. Yet there is no work which is more fascinating or gives a larger reward, if we measure our gain in deeds well done rather than in financial remuneration. The gratification that comes to one and the gratitude of parents following a successful palate operation, are factors that help to make our life work worth while, and all the worries and anxieties we may have endured are as the morning dew, which melts and disappears with the rising sun, making us feel as Emerson has said, "The reward of a thing well done is to have done it."

The more study and observation given to palate cases, the more is the fact impressed that the average doctor, and even the average surgeon, has a very incomplete idea of the fundamental principles of cleft palate and harelip surgery. This includes not only operative details but general facts which all should bear in mind, whether or not they ever expect to perform a palate or lip operation, in order that they may more intelligently advise patients as to the best procedures, and the most advisable time to operate.

In the study of palate cases an accurate knowledge of the embryology, anatomy and physiology of this region is essential. It might appear to the casual observer, the region being so comparatively small, that this knowledge could be quickly acquired. This may be true of the elementary facts, yet a detailed knowledge of these fundamentals is of far larger scope than would at first be imagined. To illustrate: I made as careful dissections as possible of the soft palate and neighboring structures, with the special view of demonstrating the musculature of the palate. The dissections were difficult, and of four standard anatomies, namely, Gray, Cunningham, Piersol and Morris, no two agreed as to the origin of the nerve supply of the palatal muscles. I further determined that illustrations of the anatomy of the soft palate as given in text-books, are not easily or clearly demonstrated in the dissecting room subject. This shows that the fundamentals of this region are not understood, and that palate operations consist of a great deal more than making two raw surfaces and stitching them

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 9, 1923.

together, which is the opinion some hold. The physiology of speech and deglutition must be well understood, in order that the important muscles in the performance of these acts shall not be injured, chiefly the tensor palati muscles.

The first question asked a surgeon or general practitioner when these babies are born is, "When should the baby be operated on?" At present, there are two definite schools—one in favor of early and the other, late operation. By late is meant when the child is a year or so old. There are arguments for and against both, but when analyzed and end results are compared, the early operation is undoubtedly the one of choice. One secret of good palate work is not to try and complete too much at one time, no matter how great the temptation. It is far better for a small amount of palate to hold than for more to be attempted and a part of this break down. Nicholas Senn once said, "The great surgeon is not the one who knows *how* to operate, but *when* to operate." This is especially true in palate work. Another adage of even greater importance is, "The good surgeon is the one who knows when to stop."

In favor of early operations, it may be said that the operation is technically easier, because less force is necessary, and (1) in moulding the alveolar border there is consequently less trauma and less shock, and (2) the whole case is finished usually before the child begins to talk, which tends to give it the benefit of improved speech. While it is safe to say that speech in these cases is never perfect, yet the chances are much better with the early operation. The chief argument against early operations is the element of shock, but considering the extent of the operation, it is remarkable how little shock there is. This is probably due to the fact that the tissues that are being dealt with are so delicate that only the most exquisitely gentle technique can be used if the operation is to be a success. It is known that shock from any operation is less if tissues are not roughly handled, and here, fortunately for the patient, nature comes to the aid of the child and forces delicacy of technique upon the operator, more in this class of work than in any other. Those who have not the most profound respect for tissues should not attempt cleft palate surgery, where gentleness is of such paramount importance.

In palate work it is extremely useful and in some instances indispensable, to have available the services of a good pediatrician; and later, in most cases, a good orthodontist, because these children usually need attention along both lines.

Of first importance to the parents are th end results. These, of course, are impossib to know in individual cases; yet, as a whol what will be our prognosis?

(1) As to anatomical results, it may b said that, barring accidents such as infectio and with good technique, they should be goo

(2) Physiologically, it is probably sa to say that if the operation is done early, th speech will be markedly improved but prob ably never perfect. If operated upon late it is questionable whether there will be muc notable effect upon speech, though deglutitio is usually easier.

(3) Another factor to be considered is th question of dentition. If these cases are fo lowed up, it is found that the most commo results are, (a) too narrow arch; (b) mis placed teeth, and (c) destroyed tooth buds The latter may be in part due to drillin the superior maxillae, with injury, destruc tion or misplacement of tooth buds. Conse quently, orthodontia plays an important par in the late after-treatment.

It is important to remember that harelip occurs without cleft palate, and cleft palat occurs without harelip, which is of greate importance and which is sometimes over looked. Often people and even doctors, i speaking of cleft palate and harelip do no seem to have a definite idea of the variou types. For general purposes, classification i comparatively easy. The one I use in teach ing students, which applies both to lip an palate, is (1) unilateral, and (2) bilateral either of which can be complete or incom plete. The varied and detailed subdivision of these main groups, as for example, dis placement forward of the premaxilla, a ver tical palate, or a horizontal septum, are o interest only to those especially interested i palate work, and the operating surgeon i such cases.

There is another type of palate that shoul be mentioned, that which has been previousl operated upon—too often with unsatisfactor results. The only classification for thes unfortunate cases is, "the mutilated palate," and this includes cases in which the palat has been surgically destroyed, in part or i whole. Many of this type are of great inter est because of the ingenuity necessary to pla and devise the most satisfactory and eas method of procedure in each case, becaus each is an individual problem unto itself. Int this class fall cases that have been poorl operated upon, or with mutilated lips, whic often invoke plastic face surgery of the mos interesting types.

The two most common faults in harel surgery are, (1) poor or no attempt to reform the nostrils, and (2) errors in correctl

forming the vermillion border. The ultimate cosmetic result of a lip operation is equally dependent upon properly reforming the nostrils and securing a good lip. In unilateral lips especially, we frequently find that after a carefully planned operation, which may give good lip depth and length, the whole cosmetic effect is ruined because the nostril on the cleft side is flattened and droops. If great care is used in properly measuring and paring flaps at operation, much of this can be avoided; but often in spite of the greatest care, this does occur. It can be later remedied, often entirely, or to a large extent, by some form of carefully planned plastic operation upon the nasal cartilages. In cases of late plastic operations, each becomes an individual problem, and operation should not be undertaken until it has been given thorough study as to the type, shape and size of the flap; and when undertaken, the general rules and principles which apply to plastic face surgery must be rigidly adhered to, lest our end result be worse than the first condition. A motto given by a professor of surgery to his students, which all of us would do well to follow in our work was, "If you can't do them any good, for God's sake, don't do them any harm." Any who have had the misfortune to operate upon a patient who has been ignorantly ruined by a previous operation, will wish that the first operator had read, marked, learned and digested, Luke XVII, 2, "It were better a millstone were hanged about his neck, and he cast into the sea, than that he should offend one of these little ones."

A large part of the success in a palate case depends upon the proper sequence of operation, which, in turn, depends upon the type of palate. In complete unilateral palates, it is best to repair the alveolar border and extreme anterior part of the palate by a septal flap at the first operation, repair the lip at the second, and the posterior part of the palate at the third operation. In double clefts, usually a fourth operation is needed.

Summarizing, it may be emphasized that

(1) Cleft palate work is a branch of medicine in itself.

(2) This class of work should not be undertaken without a thorough knowledge of the fundamentals.

(3) The proper sequence of operations is of great importance.

(4) The early operation is the one of choice.

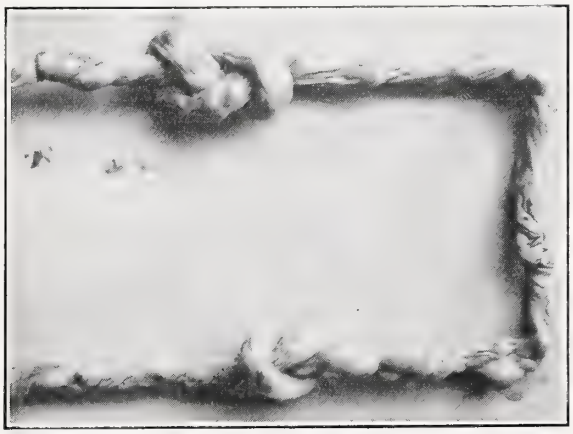
(5) The operator should work in conjunction with a good pediatrician and a good orthodontist.

MISCELLANEOUS

AN UMBILICAL CORD FREAK.

Perhaps the enclosed photograph will be of some interest. It is of a section of an umbilical cord. Observe the two knots, one a figure of eight, about one foot from the placental end, the other a single knot about the same distance from the umbilical end. The cord itself was unusually long—about four feet, and the knots were loosely tied. The child was a large, healthy boy—the seventh son. (All the children are living; none are girls.)

Can it be possible that as the seventh son he is to be a great surgeon, and has been thus early practicing the tying of surgical knots? Or is he a characteristic Texas cowboy, already gifted in looping the loop, and only awaiting his broncho and the open prairies for the further practice of his art? His father hails from Atlanta, Ga., and it is suggested that perhaps some of the knotty problems of the K. K. K. have had a decided prenatal influence upon the boy.



Umbilical Cord Section, showing figure of eight and single knots.

By the use of a string, work out the method by which this youngster tied the figure of eight. You will find it interesting. I have seen a single knot, but never two in the same case, and one of them a figure of eight. It is a peculiar freak.

Sincerely,

Denton, Texas. HORATIO G. FLEMING.

FROM THE STATE BOARD OF MEDICAL EXAMINERS.

To the Registered Medical Profession of Texas:

In order that it may function to the advantage of all concerned, as the Legislature, which is representative of the citizenry of Texas, intended it should, the State Board of Medical Examiners should know the status of the practitioners of every county in the state. The board has in its possession a list of those who are legally registered, but there are a number of practitioners who are not so registered, and it is the desire of the board to learn who they are and where they are located. Since the registered physicians of the localities in which unregistered practitioners are known to be operating afford the only means whereby this information may be quickly and reliably secured, the board respectfully requests their co-operation by sending to the secretary lists of those believed to be practicing without having registered in the county of residence and their authority for doing so, giving the correct name (in full) and post office address of each such person.

If the information herein asked for is promptly furnished, the board will do its utmost to secure general compliance with the provisions of the medical practice act.

W. L. Crosthwait, M. D., President.
T. J. Crowe, M. D., Secretary.

THROMBOSIS AND EMBOLISM RESULTING FROM RENAL TUMORS.

In a case of fatal neoplastic pulmonary embolus following nephrectomy for carcinoma, which is cited by E. Starr Judd and Albert J. Scholl, Rochester, Minn. (*Journal A. M. A.*, Jan. 12, 1924) the secondary growth had extended to the inferior vena cava. The patient was a young man in good general health; there was no clinical evidence of involvement of the vena cava. The primary focus in the kidney was small, and gave few indications of malignancy during clinical examination or at operation. Death occurred immediately after operation, and was caused by the passing of tumor emboli through the right side of the heart to the right and left pulmonary arteries.

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES.

National Radium Emanator.—A portable appliance for activating water with emanation; the emanation is emitted from a solution of radium chloride, barium chloride and sodium chloride. The appliance is claimed to produce 40 microcuries (150,000 Mache units) of radium emanation to 1,000 cc. of water daily. The actions, uses and dosage of radium are discussed in New and Nonofficial Remedies, 1923, p. 255. National Radium Products Co., New York.—*Jour. A. M. A.*, December 8, 1923.

Iodostarine-Roche Diiodotariric Acid.—An iodine addition product of tariric acid, derived from the fruit of a species of Picramnia. Iodostarine-Roche contains 47.5 per cent of iodine. It acts in the tissues similarly to inorganic iodides. It is not broken up in the stomach, but a portion of the iodine is split off when it enters the intestine. The undecomposed portion is readily absorbed and, as in the case of other fats, is largely deposited in the tissues where it is slowly split up. The action of iodostarine-Roche is exerted more slowly than that of the inorganic iodides. Iodostarine-Roche is supplied in the form of tablets iodostarine-Roche 0.25 gm., and as chocolate tablets iodostarine-Roche containing iodostarine-Roche equivalent to iodine 0.01 gm. Hoffmann-LaRoche Chemical Works, New York.—*Jour. A. M. A.*, December 15, 1923.

Tetanus Antotoxin for Human Use - Cutter.—Tetanus antitoxin, concentrated (see New and Nonofficial Remedies, 1923, p. 284), marketed in syringes containing 1,500 and 5,000 units each. Cutter Laboratory, Berkeley, California.

Diphtheria Toxin - Antitoxin Mixture - Cutter.—Diphtheria toxin antitoxin mixture (see New and Nonofficial Remedies, 1923, p. 284), each cc. representing 3 L+ doses of diphtheria toxin neutralized with sufficient antitoxin to conform to the toxicity requirements of the U. S. Public Health Service. It is marketed in vials containing, respectively, 1 cc. and 50 cc., and in syringes containing one immunizing treatment. Cutter Laboratory, Berkeley, California.

Anti-Anthrax Serum for Human Use-Cutter.—An anti-anthrax serum (see New and Nonofficial Remedies, 1923, p. 287), marketed in double-ended vials containing 50 cc. for intravenous injection. Cutter Laboratory, Berkeley, California.

Rabies Vaccine-Pasteur (Cutter).—An anti-rabic vaccine (see New and Nonofficial Remedies, 1923, p. 294), prepared according to the method of the Hygienic Laboratory of the U. S. Public Health Service. The emulsion from the cord is shipped daily and is diluted at the time of injection. The treatment consists of 21 daily injections. Cutter Laboratory, Berkeley, California.

Diphtheria Toxin for the Schick Test-Cutter.—A diphtheria immunity test (see New and Nonofficial Remedies, 1923, p. 323), marketed in packages of two vials, one containing diphtheria toxin and the other physiologic solution of sodium chloride for dilution. Cutter Laboratory, Berkeley, California.

Capsules Carbon Tetrachloride (Human Use)-P. D. & Co.—A brand of carbontetrachloride—N. N. R. It is marketed in capsules containing 20 minims. Parke, Davis & Co., Detroit.

Elixir of Veronal.—Each fluid drachm contains veronal (see New and Nonofficial Remedies, 1923, p. 63), 2 grains in a menstruum containing alcohol 33.5 per cent. Winthrop Chemical Co., New York.

Diphtheria Toxin-Antitoxin Mixture (New Formula)-Squibb.—Diphtheria toxin-antitoxin mixture (see New and Nonofficial Remedies, 1923, p. 284), containing in each cubic centimeter 0.1 L+ dose of diphtheria toxin neutralized with the required amount of diphtheria antitoxin. Marketed in packages of three vials each containing 1 cc., and in vials containing, respectively, 10 cc. and 20 cc. of the mixture. E. R. Squibb & Sons, New York.—*Jour. A. M. A.*, December 22, 1923.

PROPAGANDA FOR REFORM.

Liquid Petrolatum as a Laxative.—Liquid petrolatum is indigestible. It is not absorbed and, therefore, cannot produce poisoning. In ordinary quantities the administration of liquid petrolatum does not seriously impair the alimentary efficiency. Like all laxatives used in very large quantities, liquid petrolatum may diminish the degree of utilization of food by promoting evacuation before the functions of digestion and absorption can be entirely completed. Liquid petrolatum may produce gastric distress and, therefore, should be taken in a way to interfere least with gastric digestion by administration before bedtime or an hour before meals. In reporting on a proprietary brand of liquid petrolatum widely exploited to the public, the Council on Pharmacy and Chemistry warned that constipation should be treated by dietary and hygienic means, as evacuants are but temporary measures. It further cautioned that liquid petrolatum is medicinal; it modifies greatly the intestinal flora; it acts as a lubricant and emollient; it modifies the absorptive powers of the intestinal mucous membrane; it is capable of influencing the digestion of fats; and, in short, liquid petrolatum is a drug, the indiscriminate and excessive use of which should not be encouraged.—*Jour. A. M. A.*, December 1, 1923.

The Galvano Method for Goiter.—In the cheap and not too particular rural weeklies, advertisements have appeared for the "Galvano Necklace," said to be "the latest discovery for the relief or cure of goiter by mild electrical treatment." The device is advertised by the Cosmas Pharmacal Co., Watertown, Wis. The advertising for this device stresses the fact that the U. S. Patent Office has granted a patent on it. The public does not know, of course, that the U. S. Patent Office has granted patents on many pieces of medical pseudoscience. According to the patent specifications, the Galvano Necklace consists of beads made of glass, or other insulating material, between which are placed, alternately,

small zinc and copper disks. Through the disks and beads runs a metallic wire. The alleged purpose of the invention is that of "generating galvanic currents in contact with the skin in the presence of mercurous iodid and calcium chlorid." In use, an ointment containing mercurous iodid and calcium chlorid is applied to the skin of the neck, and the necklace is hung so that the zinc and copper disks will come in contact with the annointed skin. That this device has decided value in the treatment of goiter is unthinkable. Young women with physiologic enlargement of the thyroid will, doubtless, continue to purchase the device, and as the enlargement disappears, as it normally does, will furnish testimonials for the promotion of the device.—*Jour. A. M. A.*, December 8, 1923.

Santoperonin.—According to Professor Heubner, the history of Santoperonin, claimed to be an ascaricide, does not arouse confidence. The proprietary was placed on the German market before satisfying the requirements that should govern the introduction of new medicaments. Its composition has varied; the exploiter has maintained an air of secrecy concerning the identity. Examination indicated that it was a mixture of copper oxid with organic material which consists essentially of aromatic compounds. There seems to be little clinical evidence to warrant its use.—*Jour. A. M. A.*, December 15, 1923.

Does Heat Injure Vaccines?—It is generally believed that vaccines lose in potency on standing at room temperature. But so far as known, the sterilization of vaccines by heat does not injure the antigenic potency any more than other methods of sterilization, e. g., chemicals. The astounding deduction of a manufacturer of vaccines that heat sterilization, at a definite temperature for a given time must be highly injurious, because vaccines lose in potency on standing for weeks and months at variable room temperature, is simply a pseudoscientific statement intended, presumably, to bolster up the merits of the advertised wares in the eyes of the more or less thoughtless purchasers.—*Jour. A. M. A.*, December 22, 1923.

NEWS

President Dr. Scott has been appointed by Governor Neff to represent the State of Texas in the deliberations of the Council on Medical Education and Hospitals, Chicago, March 3-4-5.

Field Hospital for Athens.—A Hospital Company of the Thirty-Sixth Division, Texas National Guard, will have headquarters in Athens, according to information from the Adjutant General's Department. The company will have sixty men, including officers and enlisted men. Dr. J. K. Webster will be commanding officer and will be assisted by Dr. W. M. Sumner of Martin Mills, Dr. B. D. Owen of Malakoff, and the following Athens doctors: DeWitt Coker, D. Price and R. H. Hodge.—*Dallas News.*

State Health Officer Beazley Resigns.—State Health Officer Dr. W. H. Beazley has resigned, effective January 31. He will enter private practice. Dr. Beazley has served the state two years, and being a man of ordinary means has succeeded in building up his reputation as an executive and exhausting his finances. His first year in the office of the State Health Department was as Assistant State Health Officer. He succeeded Dr. Manton M. Carrick as State Health Officer a year ago.

Endowment for Coleman Hospital.—Mrs. M. T. Overall, donor of the Overall Memorial Hospital at Coleman, has created a permanent endowment fund of $50,000, to be vested in the trustees of the institution. The fund is in the form of vendor's lien notes to the amount of $43,432.96, and the donor's personal note for $6,567.04, providing that 10 per cent of the net revenues arising from the permanent endowment fund shall annually be added to the permanent fund until the additions to the fund shall have reached $100,000.

Mrs. Overall has deeded the hospital to the town of Coleman and Coleman County. She has made provisions for the treatment of charity patients.—*Dallas News.*

Dosing a State With Iodine.—Adoption throughout the state of the method inaugurated by Dr. George W. Goeler, City Health Commissioner, of placing iodine in the water supply system as a means of preventing and combating goiter, will be recommended by Dr. Mathias Nicholl, Jr., State Health Commissioner, if it proves successful. Iodine is placed in city water at Rochester each six months for periods of three weeks each, the theory being that sufficient iodine is stored in the system of the user to supply the needs of the thyroid gland the remainder of the year.

The State Health Commissioner is also watching the experiment at Syracuse and Courtland, where iodine is given to children in tablet form while they are in the schools.—*San Antonio Light.*

Annual Congress on Medical Education, Licensure, Public Health and Hospitals.—The usual conference of the groups mentioned, fostered by the American Medical Association, will be held in the Congress Hotel, Chicago, March 3, 4, 5, 1924. The first day will be devoted to medical education and the extension of medical and dental education. The second day will continue the discussion along the lines of medical education and licensure. The morning of the third day will be devoted to hospital efficiency, the afternoon being given to a discussion of public health and relationship of the medical profession and health agencies to the public. The subjects for the several discussions are interesting and the speakers are all of national and some of them international, reputation. Any information desired will be forthcoming upon application to Dr. N. P. Colwell, Secretary of the Council on Medical Education and Hospitals, 535 North Dearborn St., Chicago, Ill.

National Committee for Mental Hygiene.—Dr. Frankwood E. Williams was re-elected Medical Director of the National Committee for Mental Hygiene at the annual meeting of the board of directors, held in New York City, on December 28. The following were elected members of the executive committee: Dr. William L. Russell, Medical Director, Bloomingdale Hospital, White Plains, New York; Dr. Walter E. Fernald, Superintendent, Massachusetts School for the Feebleminded, Waverly; Dr. Stephen P. Duggan, Director, Institute of International Education, New York City; Dr. William A. White, Superintendent, St. Elizabeth's Hospital, Washington, D. C.; Dr. Charles P. Emerson, Dean of the Medical School, University of Indiana, Indianapolis; Dr. C. Floyd Haviland, Chairman, State Hospital Commission, Albany, New York; Dr. Arthur H. Ruggles, Superintendent, Butler Hospital, Providence, Rhode Island, and Mr. Matthew C. Fleming, attorney, New York City. Dr. William H. Welch, President of the National Committee for Mental Hygiene, presided.

Hospitals and Taxation.—All hospitals and infirmaries in Texas classed as charitable institutions, but which receive pay patients, are interested in the case of Santa Rosa Infirmary et al. vs. City of San Antonio, from Bexar County, which was recently submitted on oral argument in Section A, Com-

mission of Appeals. The question in point is whether such institutions are exempt from taxation.

The City of San Antonio sued Santa Rosa Infirmary for recovery of city taxes, contention being that because some patients are received for pay that institution did not come within the constitutional provision exempting purely charitable institutions from taxation. That contention was upheld by the District Court, and on appeal to the Fourth Court of Civil Appeals judgment was affirmed. Application for writ of error was granted by the Supreme Court because of the importance of the question involved and the case was transferred to Section A, Commission of Appeals, for review.

St. Paul Sanitarium of Dallas was granted permission to present argument as *amicus curiae* in behalf of Santa Rosa Infirmary.—*Dallas News.*

Medical Officers are Wanted for the Indian Service, Geodetic Survey, Panama Canal Service, Veterans' Bureau and for field work in the United States Public Health Service. Physicians interested should write to the Civil Service Commission, Washington, D. C., or the Secretary, Tenth Civil Service District, New Orleans, La. Applications for the Veterans' Bureau should go direct to the New Orleans office, and must be filed not later than February 29. Positions in the several other services mentioned will be open, according to the announcement, until June 30. These positions pay a salary from $2,000 to $4,250 per year, in addition to which there is a bonus and in some instances an expense account. Full information in regard to all of these matters, including character of service, procedure in making application, etc., will be furnished upon application. It seems that applicants will be rated as received, and positions filled as vacancies occur, from those deemed eligible. Competitors will not be required to report for examination, but will be rated as to education, training and experience. The rating will be upon sworn statements of applicant. The age limit varies according to the service. Preference will be given to physicians who have had military or naval service.

SOCIETY NEWS

Bastrop County Medical Society has elected the following officers for 1924: President, Dr. C. H. Otken, Paige (re-elected); vice-president, Dr. Geo. M. Jones, Smithville (re-elected); secretary, Dr. T. B. Taylor, Bastrop (re-elected); delegate, Dr. H. B. Combs, Bastrop; alternate, Dr. T. B. Taylor; censor, Dr. F. J. Klaulik, Smithville; member Committee on Public Health and Legislation, Dr. P. Chapman, Smithville.

Bee County Medical Society met December 17, 1923, at which time the following officers were elected for the ensuing year: President, Dr. A. J. Turner, Beeville; vice-president, Dr. C. M. Poff, Tuleta; secretary, Dr. S. E. McNeill, Beeville.

Bexar County Medical Society met December 20, 1923, with 150 members and 10 visitors present.

A letter from Dr. Holman Taylor relative to legislative matters was read and referred to the incoming Legislative Committee.

Dr. E. W. McCamish, the retiring president, following the custom set by his predecessors in office, made a report covering the accomplishments of his administration. This report may be summarized as follows: The society during the year held 27 scientific meetings, with an average attendance of 60. Many excellent papers were read, several of which were presented by visitors of distinction. The financial condition of the society was the best that it had been in years. He urged all who had not been doing so to join in the support of all society enterprises, particularly the educational and publicity campaign which the State Association has initiated.

The retiring secretary, Dr. R. Stuart Adams, briefly outlined the work of the year, reporting that the society had paid the State Association for 204 members, but that only 101 of these had ever fully paid up. The society had acted in good faith in taking this step, but he urged that the practice be discontinued, as no one appreciated something for nothing. The treasurer, Dr. C. E. Scull, then made his annual report, showing a balance in the treasury of $786.43.

Following the reports of standing committees, the following officers were elected for the ensuing year: President, Dr. S. P. Cunningham; vice-president, Dr. J. S. Steele; secretary, Dr. R. Stuart Adams (re-elected); treasurer, Dr. C. E. Scull (re-elected); delegates, Drs. E. W. McCamish, Theo. V. Hull and Thos. Dorbandt; alternates, Drs. R. E. Bowen, J. W. Goode and I. L. McGlasson; censor, Dr. Dudley Jackson.

Bexar County Medical Society met December 29.

Dr. Dudley Jackson introduced Dr. Wm. L. Clark of Philadelphia, speaker of the evening, whose subject was "Clinical and Historical Observations in the Treatment of Malignant Diseases by Electrothermic Methods." Dr. Clark said that his paper was based upon work that he had been engaged in for the past sixteen years. No single method should be depended upon in the treatment of malignant diseases, since experience has shown that surgery, electrothermic methods, radium and *x*-ray are all of importance. None should be eliminated if success is to be realized. He deplored the fact that there are such meager teachings about electrothermic methods in medical schools, and that there is such a dearth of authentic literature upon the subject. Prejudice against anything electrical in therapeutics, together with improper technique, often employed with corresponding poor results, tends to subordinate this valuable therapeutic aid. There are two definite tissue changes produced by high-frequency currents, namely, dessication and coagulation. The aim of electrothermic treatment is the destruction of malignant cells, the sealing of blood vessels and a wound which will heal with the least amount of cicatrization. The cells exposed to the dessicating current are shrunken and shriveled, their nuclei condensed and elongated, the whole assuming a mummified appearance. Most of the blood vessels are intact, some of them thrombosed, and there is no evidence of hemorrhage. When coagulation is used the cell outline is lost entirely. The tissue elements affected seem to fuse into a homogeneous mass, similar to hyalinization, and the majority of blood vessels are thrombosed. The electrothermic methods are dependent for their results upon the resistance of the tissues to the current, which manifests itself in the form of heat. When dessication is resorted to, the current being of comparatively low amperage, only a moderate degree of heat is produced. This heat is sufficient, however, to cause complete evaporation of the water content of the cells, producing the mummified appearance referred to. Since this method of cell death is accompanied by very little degenerative change, the amount of cicatrized tissue produced is small, and the cosmetic results are good. In like measure healthy tissues are spared the danger of devitalization by contractile fibrous tissue. The coagulation method, requiring a higher amperage, induces a more intense heat, so that it not only dehydrates but coagulates the cell protoplasm.

Dr. Clark then showed numerous pictures illustrating the results obtained through the use of surgery, electrothermic methods, *x*-ray and radium.

Continuing his discussion of the subject, he stated that where all the malignant cells in a localized

growth could be killed at one time, he had obtained better results by using electrodessication or coagulation, and in his experience of sixteen years he has noticed fewer recurrences where this method has been used alone than where it has been used in conjunction with the *x*-ray or radium. However, when the growth involved lymphatic drainage areas, the whole armamentarium should be used. After a thorough trial, he did not advocate the use of the so-called "radium seed," because of the malodorous slough, with long protracted healing, too often produced by them. Radiograms that he had taken of cases treated by "radium seed" had universally shown the devitalization of bone.

Dr. R. H. Crockett, opening the discussion, stated that he firmly believed in the electrothermic methods, but is puzzled as to the value of the respective methods, since authorities differ so much. He agreed with Dr. Clark that *x*-ray and radium were usually effective in the basal-celled growth, but that the squamous or prickle-celled neoplasm is more resistant to *x*-ray or radium, and hence the electrothermic methods usually give better results, and all three methods should be used in case of metastasis. Dr. George Pfahler teaches that a filtered dose of *x*-ray should be used after the electrothermic methods, while the tissues are still hot. Dr. Crockett believes in attacking the growth locally with the *x*-ray or radium, so as to cause the destruction of the cell, and then using the dessication method around the entire growth. The giant cell tumor could usually be treated with radium alone.

Dr. I. L. McGlasson believes that Dr. Clark's work has added a great deal to our knowledge of how to fight these neoplasms. He emphasized what Dr. Clark had said regarding the use of surgery, *x*-ray and radium, and the electrothermic methods. By using everything at our command we may be able to reduce the 90,000 annual deaths from malignancy. He stated that he regretted that he could not report such good results from the electrothermic methods as Dr. Clark.

Dr. Dudley Jackson had found men biased in their advocacy of the different methods of treatment of malignancy, and had been pleased to see that Dr. Clark was not confining himself to any one method, but was using all of them, if necessary.

In closing, Dr. Clark said that the technique is the whole thing. It is ridiculous for a person to think that all one has to do is to get a good machine and good results will follow. Such is far from the fact.

Bexar County Medical Society met January 10, with 41 members present.

Dr. J. A. McIntosh read a paper on "Etiology and Diagnosis of Cerebrospinal Sphilis," in which he stated that there is some ground for the belief that the sailors of Columbus became inoculated with syphilis in the New World, since the first recorded epidemic was from 1495 to 1500. Bloch, who was practicing in Spain when Columbus returned from his first trip to America, treated these sailors, and he says that the Indians of Central America had a complete system of treatment for syphilis. It has been found that the disease has been named in several Indian dialects, and in Mexican myths, also. A few years after this recorded epidemic, there were foci of the disease throughout Europe. In 1497, literature mentioned syphilitic paralysis, and a few years later various paralyses, psychoses and meningitis due to this disease. In 1787, Hunter of England, stated that he had never observed syphilis of the internal organs. The study of syphilis in that country thereby was greatly retarded, because of his recognized standing. Virchow's studies laid the foundation for the modern pathology of the disease, and when Schaudinn, in 1905, demonstrated that the spirochaeta pallida was the exciting agent, the diagnosis and treatment were placed upon a rational basis. The speaker emphasized the fact that no age is exempt from invasion of the nervous system; such cases have been reported seven weeks after the chancre. Dr. Hazen, of Washington, has mentioned three facts that he believes make plain the variance of these complications of syphilis, namely, (1) A special strain of infecting organism differing in type or virulence, or both; (2) too little treatment, and (3) too intensive early treatment. The first two reasons are self-explanatory. By the third he means that too intensive early treatment sterilizes the rest of the body and only partially sterilizes the nervous system. Hence the natural defensive reactions of the host are not called into play, when the organisms remaining in the nervous system attack its tissues, and cerebrospinal syphilis results.

The first symptoms of syphilis of the nervous system are usually headache, dizziness, sleeplessness, irritability and lassitude, suggesting the neurasthenic syndrome. He warned against the valuable time that would be lost if a diagnosis of neurasthenia is made. He placed great reliance upon the cell-count of the spinal fluid, since clinical reports show that while the Wassermann reaction is positive in only 50 per cent of cases, the cell count is increased in nearly 100 per cent. The presence of from 8 to 10 lymphocytes to the c.mm., indicates a pathological fluid. There are other cells that will help to differentiate the fluid of tuberculous meningitis and encephalitis lethargica.

Dr. W. S. Hanson read a paper on "The Prognosis and Treatment of Cerebrospinal Syphilis." He said that since the manifestations of syphilis are many, all must be weighed most carefully, and every one should realize that there is no such thing as a parasyphilitic condition and that if there is no lues there is no tabes. The fault lies in the failure to properly diagnose the case at the start, and the negligent way in which treatment is instituted. No patient should be discharged as cured until the nervous system has been carefully examined, as cerebrospinal syphilis can occasionally be avoided by so doing. All cases of lues cannot be diagnosed by laboratory methods. Brain tumor often gives laboratory findings similar to lues. Various sensations are diagnosed as focal when they are syphilitic. It is important to prevent lues from involving the cerebrospinal system, as the choroid plexus forms a barrier to proper medication of the cerebrospinal fluid after the nervous system has become involved. Since most of the arteries of the brain are end-arteries, the spirochetal infection may prevent medication from reaching the desired goal. In younger patients attacks of transitory aphasia, monoplegia and hemiplegia, should always be looked upon with suspicion. Persistence in treatment should be insisted upon, to prevent recurrences.

Dr. Dudley Jackson told of a patient, who at eight or ten years of age showed an irregular pupil. He was very bright in school and graduated in medicine at an early age. He showed no luetic symptoms until after being shell-shocked in the army, and exposed to great hardships for a considerable length of time. The spinal fluid in this case was only faintly positive, and the Lange gold curve was not positive for paresis. However, his grandiose delusions and other symptoms warranted a diagnosis of paresis. Dr. Jackson believes the syphilis was inherited, and that exposure and hardship had proven too much for the already diseased nervous system. It is interesting to note that other members of this man's family were practically degenerates, while he was a most polished gentleman.

In closing, Dr. McIntosh agreed with Dr. Hanson that one could find cells in the spinal fluid in brain tumors but not with the regularity that lymphocytes

are found in meningitis. Neurologists see less cerebrospinal lues than formerly, because of the earlier diagnosis and more active treatment now being instituted by the general practitioner.

The following committees were named, to serve for the year: Program Committee, Dr. J. A. McIntosh, chairman; Drs. Robt. E. Bowen and C. E. Scull; Library Committee, Dr. W. E. Nesbit, Chairman; Drs. S. C. Applewhite and D. Jackson; Legislative Committee, Dr. I. L. McGlasson, chairman; Drs. W. B. Russ and Thomas Dorbandt; Membership Committee, Dr. L. M. Weinfield, chairman; Drs. F. N. Haggard and C F. Lehman.

Bexar County Medical Society met January 17, with 45 members and six visitors present.

Dr. S. E. Thompson of Kerrville, read a paper on "The Failure of Physical and X-Ray Examinations to Reveal the Exact Pathology in Early Lung Tuberculous Infection." He wished to state three things at the start, and prove them. First, the beginning of a tuberculous process cannot be diagnosed by physical examination; second, the *x*-ray will not make a diagnosis in the very beginning; and third, at no time in the course of the disease will either *x*-ray or physical examination show the full extent of the tuberculous process. The three modes of infection are, respiratory, intestinal and implantation. In the beginning, the most careful use of the stethoscope will not reveal any pathology, and it is impossible to tell how long it will be until the condition can be diagnosed with certainty. The *x*-ray men are not agreed as to what constitutes a normal lung in a radiogram, and a tubercle is about the size of a pin head. Because physical examination or the use of the *x*-ray fails to reveal pathology, one should not say that none exists. He cited the case of a patient who when first examined was said to have chronic bronchitis. When again examined, anyone could make the diagnosis of pulmonary tuberculosis. Since 1921 this patient has been repeatedly examined by experts in the Army Medical Corps, and the *x*-ray at no time has revealed more than one cavity in the left lung. An autopsy by a competent pathologist showed two cavities in the left lung, one below the one shown by the *x*-ray. A young lady had an elevation of temperature, loss of appetite, etc., but was told that she did not have tuberculosis because neither the physical examination nor the *x*-ray were positive. A short time later her sputum was found to be teeming with tubercle bacilli. She died of tuberculous meningitis, and on autopsy a small lesion, not larger than a pea, was found in the lung. It was small, but *large enough* to furnish the germs for the meningitis, which proved fatal. Patients should not be told that there is nothing the matter and that they should forget their illness, simply because of negative findings at the time of examination.

Dr. W. S. Hamilton stated that the question always arises as to who and how competent were the pathologist, roentgenologist and internist. There was a time when the roentgenologist would point out shadows and call them thickened bronchial vessels, when probably they were only evidences of a bronchitis. The *x*-ray will show a tuberculous process earlier than the average practitioner can find it by physical examination. A good *x*-ray plate will show a lesion varying in size from a minute process to a pneumonia. If the *x*-ray man found a cavity which was not found at post-mortem by the pathologist, he would say that the pathologist was at fault.

Dr. Theo. Y. Hull thought it impossible to tell what changes had taken place between the time of examination and the autopsy. He wondered if the examination had been made just prior to death, and if the *x*-ray plate was a good one; also whether the physician making the examination, and the pathologist, were efficient. He did not think tha one in whom tuberculosis could not be diagnosed b any means should be hospitalized, because of th bad psychological effect on the patient.

Dr. W. S. Hanson thought that Dr. Thompson' main point was relative to what should be told th patient who presented suspicious symptoms, but i whom a positive diagnosis of tuberculosis could no be made. Just because no pathology is found, on should not assume that it does not exist.

Dr. S. Burg thought that a patient who present himself because he is suspicious of tuberculosis should be considered potentially so until time prove otherwise.

In closing, Dr. Thompson said that statistics sho that in a large hospital 83 per cent of 1,400 tuber culous patients had been advised at the beginnin that they did not have the disease. He found abou the same percentage at Carlsbad, Texas.

Bowie County Medical Society met January 25 with the following doctors present: Drs. Hibbitts Mann, Robison, Hays, Middleton, Murry, Portwood Beck, J. K. Smith, R. Q. McClure, White an Collom. The graduate nurses of the county were invited to attend the meeting, and several were present.

Dr. E. L. Beck of Texarkana, made an interesting talk on "The Co-operation of Nurse and Doctor."

The application for membership of Dr. O. F. Portwood of Texarkana, was referred to the board of censors.

Cameron County Medical Society met in Harlingen, January 31, with 17 members and several visitors in attendance. A splendid dinner, accompanied by music and short addresses by members and visitors, was enjoyed by those present.

Dr. John Hunter presented a typical case of pellagra, which was freely discussed.

Dr. Malone Duggan read a paper on "The Practical Administration of Insulin," which subject was discussed by the method of asking and answering of questions.

Dr. H. K. Loew read a paper on "Management of the Enlarged Prostate," which was freely discussed.

Clay County Medical Society met December 17, 1923, at which time the following officers were elected for the ensuing year: President, Dr. W. F. Cook, Bellevue; vice-president, Dr. J. A. Allison, Henrietta; secretary, Dr. J. H. Ferriss, Henrietta; delegate, Dr. W. F. Crook; alternate, Dr. J. A. Allison; censor, Dr. Albert Greer, Henrietta.

DeWitt County Medical Society met January 16, 1924, with eight members present.

Dr. J. W. Burns reported a case of postpharangeal abscess with unusual symptoms. He also reported a case of empyema of the gall-bladder, in which he had removed the gall-bladder, the patient remaining jaundiced. A second operation revealed a tumor of the ampulla of Vater, extending into the duodenum. The tumor was not removed, and after a stormy convalescence the patient made a complete recovery.

Drs. Burns and Gillett reported a case of splenomegaly, and showed a radiogram of the condition. Following a splenectomy the patient made a quick recovery.

Dr. L. W. Nowierski reported a case of pneumonia in the left lower lobe, with severe liver symptoms. The patient, a negro, recovered.

Dr. J. R. Frobese reported a case of pernicious anemia in a child five years of age.

Dr. W. R. Gillett reported a case of a severe burn of the buttocks of a child.

The following officers were elected for 1924: President, Dr. L. W. Nowierski, Yorktown; vice-president, Dr. J. R. Frobese, Cuero; secretary-treas-

urer, Dr. B. J. Nowierski, Yorktown (re-elected); delegate, Dr. J. W. Burns, Cuero; alternate, Dr. H. C. Eckhardt, Yorktown; censors, Drs. W. R. Gillett, J. C. Dobbs and W. W. Sale, all of Cuero; Committee on Public Health and Legislation, Drs. J. W. Burns, J. C. Dobbs and G. W. Allen, Jr.

El Paso County Medical Society met January 14, 1924, with 24 members and two visitors present.

Dr. Hugh Crouse presented a man about 28 years of age, who had the appearance of 40, and who showed a spastic gait. The case was discussed by Drs. Swope and Schuster.

A symposium on congenital syphilis was opened by Dr. Harry Leigh, with a paper illustrated by slides showing different facial phases of the disease in children.

Dr. Henri Letord, dental surgeon, told how the teeth are affected in cases of hereditary syphilis, showing slides of Hutchinson teeth and other conditions.

Dr. F. P. Schuster discussed the subject from the viewpoint of the eye, ear, nose and throat specialist.

Dr. P. E. McChesney spoke on the neurological results of congenital syphilis, and told of the large number of cases found in the examination of school children.

Dr. S. A. Schuster stated that nearly all cases that had come to his attention showed a secondary infection, and that anti-syphilitic treatment alone was not sufficient in such cases.

Major Scott told of the value of a cloth saturated with mercurial ointment, slipped into the bib of a congenital syphilitic child.

El Paso Personals.—Dr. J. W. Tappan is the proud father of another boy, Robert Lewis, born December 5, 1923.

Dr. Will P. Rogers was married to Miss Lula B. Adams, December 26, 1923.

Dr. W. A. Toland was married to Miss Grace B. Terrill of Boston, Texas, November 26, 1923.

Dr. Elliott C. Prentiss was married to Miss Ethel I. Owbridge, at the home of the bride's parents, in Santa Monica, California, December 20, 1923.

Dr. J. M. Treilo, formerly of El Paso, is now physician to the William Randolph Hearst Ranch at Babicora, Chihuahua, Mexico.

The El Paso Masonic Hospital has been entered upon the list of standardized hospitals by the American College of Surgeons.

The Waite Pathological Club is a new institution for medical study recently organized and now functioning. The membership is limited to twelve, and its members must not be absent from more than three consecutive meetings. It is a live organization and very enthusiastic.

Dr. Howard Thompson, the grand old man of the El Paso County Medical Society, rests on his oars in the practice of medicine, in the seventy-fourth year of his life. Dr. Thompson graduated from the Medical College of Ohio, in Cincinnati, in March, 1881. He practiced from that time until April, 1885, in Franklin, Indiana, then came west and located at the Mescalera Indian Agency for four years. Following a term of postgraduate work at the University of Cincinnati, he came to El Paso in March, 1890, and for 25 years had the same office in the building, whose site is now occupied by the State National Bank. He was the fifth President of the El Paso County Medical Society, serving from 1901 to 1902. Since his retirement, Dr. Thompson has returned to the Mescalera Indian Agency, where he is enjoying his more than three score and ten years, in good health and happiness.

Grayson County Medical Society met January 8, 1924, with 15 members and one visitor present.

Dr. M. M. Morrison gave a detailed explanation of the Educational and Publicity Campaign initiated by the State Association. A motion was made and unanimously adopted, that an assessment of $5.00 per member be made to assist in putting over this campaign.

Dr. Paul Gunby of Sherman, reported the removal of a hair bolus which weighed two pounds, from the stomach of a twelve year old girl who had had the habit since early childhood of swallowing her hair. He presented the specimen, which was composed entirely of hair and was an exact mold of the stomach. Although the specimen weighed two pounds on removal, after it had dried it weighed only a few ounces.

The following officers were elected for the ensuing year: President, Dr. D. K. Jamison, Denison; vice-president, Dr. J. A. Rutledge, Denison; secretary-treasurer, Dr. W. A. Lee, Denison; censors, Dr. O. C. Ahlers of Sherman and Drs. R. E. Truly and J. A. Rutledge of Denison; delegate, Dr. A. W. Acheson, Denison; alternate, Dr. M. M. Morrison, Denison.

Harris County Medical Society met January 5, 1924, with 68 members present.

Dr. J. H. Agnew reported a case of facial diplegia in a male negro 22 years of age, who had been struck by a log on the left side of the head just in front of the ear. Following the accident, he was unconscious for a time, but aroused himself and went home. The following day he noticed a slight ringing in the right ear, and that his lower lip drooped. A week later he had developed a typical bilateral facial palsy. There were no sensory disturbances and his hearing was normal. Physical examination was negative, except that the pupils did not react to light. Blood and spinal fluid Wassermanns were negative. At the end of ten days there was no change in his condition, and the paralyzed muscles would not respond to the faradic current. *X*-ray examination failed to reveal fracture of the skull, and there were no meningitic symptoms. Therefore, a lesion peripheral to the point of exit of the seventh nerve would not seem possible. It would seem logical to regard this case as one of bilateral nuclear palsy of luetic origin, in spite of the negative serological evidence. The onset of this condition following definite history of trauma, is in line with the experience of industrial surgeons, who often find luetic lesions initiated and activated by trauma.

A paper on "The Use of Insulin" was read by Dr. F. S. LeClercq of Morriston, N. J.

Harris County Medical Society met January 12, 1924, with 62 members present.

Dr. J. C. Michael reported a case of arsphenamine dermatitis, with treatment by sodium hyposulphite. The patient was a Mexican, aged 39, with a history of skin trouble several years previously. He denied having a chancre or secondary symptoms of syphilis. He had gonorrhea four weeks before admission, which was still active. The blood Wassermann was four plus, and he was given eight injections of salvarsan, of 0.4 grams each, and eight injections of salicylate of mercury. The last injection was two weeks before admission to the hospital. The day following the last injection, the patient noticed an itching, vesicular, generalized eruption, which in a few days changed to an extensive, scaly eruption. When first seen there was present a general exfoliative dermatitis; the patient's general condition was poor; he was undernourished; showed slight fever, and there was a trace of albumen in the urine. He was put on a fat-free carbohydrate diet, a simple dusting powder was used for the general surface, and a two per cent ammoniated mercury ointment for the fissures. He was given hyposulphite intravenously, beginning with 0.3 of a gram and

increasing to 1.2 grams. He was then given one gram every other day, and there was no reaction following these injections. The patient improved rapidly and in seven days was entirely free of the itching. His temperature was normal, and his general condition greatly improved.

Dr. S. C. Red reported a case of pneumonia.

Dr. J. N. Trible read a paper on "Absorption From the Urinary Tract." Starting in 1872 with the work of Treski and later Albarran, Burns, Swartz and recently, Kidd, a great deal of work has been done on the problem of absorption from the urinary tract. A definite absorption from all parts of the tract has been shown, and especially from the renal pelvis, which has an absorbent surface of a highly sensitive nature. Most of the experimental work has been done on dogs, usually by the injection of indigo carmine and indigo ink into the ligated ureter. Following this injection, these substances have been found in the opposite kidney, liver, lungs, spleen, and other organs. Experimenters believe that if particles of ink can travel in this manner that bacteria and other foreign substances can do likewise. Some observers believe that such absorption occurs only under pathological conditions, and suggest that the clinical symptoms may be due to the passage of bacteria through the kidney into the blood stream. The question of hematogenic infection has been so generally accepted that we hear on all sides of the wholesale extraction of teeth and tonsils in an effort to locate possible foci. It seems possible that we overlook the possibility of absorption from the bladder and renal pelvis due to trauma and upward movement of some of the toxic material brought about by catheterizing and instrumentation.

Dr. R. H. Skaggs reported a case of abscess of the brain. He stated that abscesses of the brain had the same characteristics as abscesses elsewhere in the body. They are never primary, and from 70 to 80 per cent are of otogenous origin. There are a great variety of symptoms. The outstanding symptom is usually headache, but sometimes the patient complains of only a sore feeling in the head. The pulse is usually slower than normal, and vomiting is frequently found. Other symptoms are, mental dullness, change in personality, change or slowness of cerebration and drowsiness, which may progress into a semicomatose state. In addition to these symptoms, in cerebellar abscesses nystagmus, vertigo, hypermetria, disturbances of speech, paralysis, squint, and ptosis, are often found. The differential diagnosis is usually between brain tumor and sinus thrombosis.

Harris County Medical Society met January 19, 1924, with 59 members present.

The following program was rendered: "Deep *X*-ray Therapy," Dr. H. A. Bachmann of Chicago; "Report of Case of Abdominal Pregnancy, with Review of Literature," Dr. R. M. Hargrove, Houston; "Rupture of the Uterus During Pregnancy, Following Caesarian Section," Dr. Thomas Freundlich, Houston.

Hunt County Medical Society has elected the following officers for 1924: President, Dr. P. W. Pearson, Emory; vice-president, Dr. C. T. Bradford, Commerce; secretary-treasurer, Dr. Henry W. Maier, Greenville (re-elected); delegate, Dr. Joe Becton, Greenville; alternate, Dr. J. W. Ward, Greenville; censor, Dr. W. M. Dickens, Greenville.

Potter County Medical Society elected the following officers for the ensuing year: President, Dr. G. T. Vineyard; vice-president, Dr. A. E. Winsett; secretary-treasurer, Dr. Richard Keys; delegate, Dr. S. P. Vineyard; alternate, Dr. H. H. Latson; censor, Dr. A. H. Lindsay.

Tarrant County Medical Society met January 9 1924, with 80 members present.

Dr. R. S. Mallard read a paper on "Spinal Anesthesia in Urology," in which he said that this form of anesthesia should be reserved for major operations, and for minor urological operations under certain circumstances. The sudden drop in blood pressure in spinal anesthesia is due to a dilatation of the splanchnic blood vessels. Surgeons who condemn spinal anesthesia either have had no experience with it or else have had fatal mishaps in their early experiences. Spinal anesthesia is not safe when the blood pressure is less than 100 systolic. Mortality statistics show that there is one death in every three to five thousand cases under spinal anesthesia whereas under ether there is one to every sixteen thousand. He advised against circulatory depressants such as morphine, as a preliminary to operation, and on the other hand urged the use of such stimulants as caffeine and digitalis, when indicated. The position of the patient should be governed by the specific gravity of the solution injected, the head being elevated when the solution is heavier than the spinal fluid, and *vice versa*. After the injection has been made, the blood pressure should be recorded every five minutes, and it should be maintained at a normal level by subcutaneous injections of adrenalin and strychnine.

Dr. J. P. Lee read a paper on "The Causes and Management of Difficult Labor." He said that the mortality rate in obstetrics is still too high, mainly because a thorough examination of the patient early in pregnancy is often neglected. He classified the causes of abnormal labor as maternal and fetal. Among the chief maternal causes are constitutional diseases, local tumors, pelvic deformities and rigidity of the cervix. A pelvis can be said to be contracted only when a particular head cannot adapt itself to that particular pelvis. Among the fetal causes are malpositions, prematurity and excessive size of the fetus. The characteristics of a vicious position are, early rupture of the membranes and slight nagging pains and slow or absent engagement of the head. The treatment of difficult labor is mainly prophylactic. The position of the patient in relation to its influence on the size of the pelvic channel must be studied. Forceps and version must be used with extreme care, after being certain as to the size and presentation of the parts. The paper was discussed by Drs. Whitsett, Morton and Suggs.

Drs. C. L. Prichard and W. R. Sneed, were elected to membership.

Dr. Holman Taylor called attention to the fact that all papers to be presented to the State Association must first be read in full before the county society.

Resolutions on the death of Mrs. E. C. Schoolfield, wife of one of the members of the society, were read and adopted by a rising vote.

The president announced the following committees for the new year: Grievance, Drs. McLean, Walker, Sullivan, Dunn and Hooper; Membership, Drs. Mulkey, Kee and Tucker; Public Health and Legislation, Drs. Whitsett, Shannon and Ponton; Ways and Means, Drs. Allison, Walker, McLean, Harris, K. H. Beall, Bacon Saunders, Brown, Coffey, Cook, Thompson, Suggs, Taylor, Gilmore, Hall, Montague, W. C. Duringer, Lyle Talbot, Hayes, Tisdale, Rhodes, S. A. Woodward, Chase, Barcus, Clayton, Withers, Wilson and Kibbie; Study of City Charter, Drs. Wilson, Kibbie and Barcus; Historical, Drs. Valin Woodward and Van Zandt; Program, Drs. Hall, McCollum, Cook, Thomason, McVeigh, Hooper, Jeter, Kelley, Hayes, Mulkey, Roberts, Godley, Gilmore, Schoolfield and McKean; Clinic, Dr. Suggs, chairman, and Drs. Schenck, Needham and Day, and Dr. Schenck

as editor of the *Bulletin* and Dr. E. H. Gough, manager.

Williamson County Medical Society met at Georgetown, January 9, 1924, with 16 members and six visitors present.

Dr. J. H. Vaughan reported a clinical case and read a paper on "Focal Infections," which was illustrated by lantern slides. Dr. Vaughan was assisted in illustrating his discussion by Dr. Cater, a dentist, of Taylor.

The District Medical Society, which is to meet in Taylor, February 14, was discussed and the president, Dr. Ed Doak, authorized to appoint a committee to make the necessary arrangements for the meeting. Following the meeting a banquet was given by the Georgetown physicians, which was very much enjoyed.

The following officers were elected for the ensuing year: President, Dr. Ed Doak, Taylor; vice-president, Dr. H. A. Scott, Hutto; secretary, Dr. W. G. Pettus, Georgetown; delegate, Dr. J. F. Flinn, Hutto; censor, Dr. C. C. Foster, Georgetown; legislative committee, Drs. E. M. Thomas and C. C. Foster of Georgetown, Dr. J. I. Collier of Taylor.

Van Zandt County Medical Society met in Canton, February 1, with nine members and one visitor present.

Following the report and discussion of a number of clinical cases, Dr. D. L. Bettison of Dallas, read a paper on "Cross Eyes in Children, or Visual Squint."

Twelfth District Medical Society met in Temple, January 8-9, with a large attendance. The following scientific program was rendered during the two days' session:

"Chairman's Address" (Section on Obstetrics and Gynecology), Dr. J. M. Frazier, Belton; "Conservative Methods in Obstetrics," Dr. C. R. Hannah, Dallas; "Some Observations in Eclampsia," Dr. Marion Brown, Mexia; "Intracranial Hemorrhage of the Newborn," Dr. W. L. Allison, Fort Worth; "Therapeutic Value of the Bacteriophage in the Treatment of Bacillary Dysentery," Dr. Ralph C. Spence, Dallas; "The Use of Digitalis in Chronic Cardiac Cases," Dr. J. Wilson David, Corsicana; "Dietetics and Endocrinology" (with lantern slides), Dr. J. W. Torbett, Marlin; "Management of Breast Cancer," Dr. I. W. Jenkins, Waco; "The Cancer Problem," Dr. I. L. McGlasson, San Antonio; "Brain Tumor and General Practice," Dr. E. R. Carpenter, Dallas; "Determining Liver Function by Estimating the Amount of Dye in the Blood Serum following the Intravenous Administration of Phenoltetrachlorphthalein," Dr. J. E. Robinson, Temple; "Hip Joint Disease," Dr. Joe McGuire, Dallas; "Surgical Lesions of the Elbow Joint," Dr. H. R. Dudgeon, Waco; "Intestinal Obstruction," Dr. G. W. Flynn, Dallas; "The Etiology, Pathology and Symptomatology of the Mobile Ascending Colon," Dr. K. H. Aynesworth, Waco; *X*-ray Diagnosis of the Mobile Ascending Colon," Dr. I. W. Jenkins, Waco; "Surgical Treatment of the Mobile Ascending Colon," Dr. A. B. Small, Dallas; "Surgical Treatment of Neisserian Epididymitis," Dr. I. E. Colgin, Waco; "Report of Cases of Foreign Bodies in the Lungs and Esophagus with Special Reference to Points of Diagnosis," Dr. Geo. S. McReynolds, Temple; "Surgical Management of Persistent Headaches Due to Unresolved Cerebral Contusions," Dr. W. L. Crosthwait, Waco.

New by-laws, prepared by a committee consisting of Drs. G. B. Foscue, I. W. Jenkins and H. R. Dudgeon, all of Waco, were adopted. The outstanding features of the new constitution and by-laws may be epitomized as follows:

One day session only; no preliminary addresses; papers not to exceed fifteen minutes; papers not to be numbered on program, but to be interspersed, without reference to specialty or branch of medicine; elaborate entertainments to be discouraged—not to consume more than one or one and one-half hours' time; no sections or section chairmen; a program committee of three members, one appointed each year, the secretary of the Association to be an ex-officio member, the duties of which shall be to select essayists and arrange for the meeting; the program committee to have authority, in the event of there being more papers than can be heard or discussed in one day, to segregate them and hold two meetings at the same time.

The proposed Publicity and Educational Campaign of the State Association was discussed at length, the discussion being led by President Dr. A. C. Scott of Temple, and Councilor Dr. N. D. Buie of Marlin.

Officers for the ensuing year were elected as follows: President, Dr. G. S. McReynolds, Temple; secretary-treasurer, Dr. L. R. Talley, Temple.

The entertainment features were, as usual with this organization, most pleasing. The local profession honored the visiting members and members of the Auxiliary, with a dinner at the Harvey House on the evening of the first day, which was followed by a continuation of the scientific session.

Twelfth District Ladies' Auxiliary met during the time of the session of the Twelfth District Medical Society, January 8, at the home of Mrs. J. M. Woodson, Temple. The attendance was in every way satisfactory and the program interesting. Addresses were delivered by Mesdames G. V. Brindley and H. L. Forrester of Temple, R. J. Alexander and President Mrs. W. A. Wood of Waco. The program was interspersed with music.

The following officers were elected for the ensuing year: President, Mrs. G. S. McReynolds, Temple; vice-president, Mrs. Lee Knight, Temple; secretary, Mrs. J. W. Torbett, Marlin; corresponding secretary, Mrs. G. V. Brindley, Temple.

A buffet luncheon was served at the home of Mrs. J. M. Woodson during the evening. Music was furnished by Mrs. Allie Coleman Pierce of Baylor College, Belton, and readings by Miss Mary E. Latimer, also of Baylor.

North Texas District Medical Society will hold its next session at Decatur, Texas, June 24-25, 1924.

CHANGES OF ADDRESS.

Dr. Agnes Jackson, from Naples to Linden.
Dr. L. L. Jackson, from Naples to Linden.
Dr. W. L. Allen, from Rising Star to Rotan.
Dr. W. H. Cooley, from Corpus Christi to Brookhaven, Miss.
Dr. J. W. MaCune, from Eagle Pass to Ballinger.
Dr. J. M. Griffith, from Big Sandy to Tyler.
Dr. R. E. Forrester, from Mexia to Corsicana.
Dr. W. K. Logsdon, from Mexia to Corsicana.

DEATHS

Dr. J. K. F. Bowen of Dallas, died at his office, January 19, 1924. It is thought that he fell asleep in his chair, not noticing that gas was escaping into the room; while asleep, he was asphyxiated by the gas.

Dr. Bowen was born near Clarksdale, Missouri, March 20, 1860. His preliminary education was obtained in the common schools of Missouri, after which he spent two years in the University of Missouri. He graduated from the Missouri Medical College, St. Louis, in 1882. After practicing in Missouri a year or two, he moved to Burneyville, Oklahoma, at which place he practiced three or four years, moving in 1887 to Sherman, Texas, where he

practiced one year. He was married to Miss Lillie Cross of Gainesville, Texas, December 1, 1886. He went from Sherman to Howe, Texas, where he practiced for sixteen years, when he went to St. Joseph, Missouri, at which place he spent nine years, a part of which time he lectured in the Andrews Medical College at that place. He moved from St. Joseph,

DR. J. K. BOWEN.

Missouri, to Grand Saline, Texas, about 1913, and from the latter place to Dallas, where had been for only twelve days at the time of his tragic death.

Dr. Bowen was a member for a number of years of the Van Zandt County Medical Society. He is survived by his wife and three daughters, Misses Lola and Mabel Bowen of Dallas, and Mrs. M. Cooles of Tulsa, Okla.

Mr. Daniel H. Kernaghan of Fort Worth, died at the home of his brother, in New Orleans, December 28, 1923.

Mr. Kernaghan was born in New Orleans, November 7, 1851. He was educated in the schools of that city. He came to Texas in 1870, as the head bookkeeper for Bateman Brothers and Company at Jefferson, at that time the largest wholesale grocery concern in the State. In 1884, the firm moved to Fort Worth, and Mr. Kernaghan continued at the head of its accounting department. He remained in this employment for a number of years, resigning in 1896 to become a public accountant. He was a pioneer in this field, if not the first of his profession in the State. He continued in the profession until the time of his death, contributing in the meantime much force and enthusiasm to its development. He was the first president of the Texas Society of Certified Public Accountants, and while serving in that capacity was largely instrumental in the passage of the Texas law controlling the practice, in 1915. He served on the State Board of Public Accountancy from 1919 to 1921. He was a member of the National Association of Cost Accountants, and a charter member of the American Institute of Accountants. He was associated at different times with Messrs. E. J Archinaud and Chas. F. Bridwell, both well known in the business affairs of the State. His firm will be continued under the old name.

Mr. Kernaghan was married in 1891 to Miss Mary Harvie Groves. He is survived by his widow, two sons, two sisters and a brother. He was a consistent member of the Roman Catholic Church.

Mr. Kernaghan took charge of the books of the State Medical Association, as auditor, shortly after the establishment of the JOURNAL as a business enterprise, and has been considered a counselor and and adviser in business affairs through all these years of endeavor and gradual accumulation of funds. He looked upon the business of the Association almost as his own personal affair, and the charges for his services were always nominal and

MR. D. H. KERNAGHAN.

made more as a matter of principle than profit. He has served the medical profession of Texas in a manner to be appreciated and his memory will be treasured.

Dr. W. E. Rucker died at his home in McKinney, Texas, January 5, 1924.

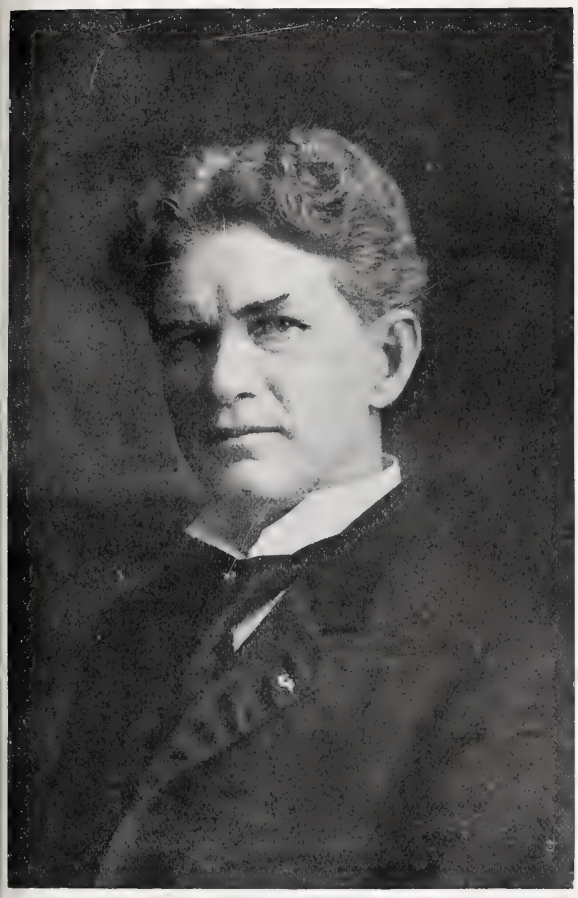
Dr. Rucker was born May 10, 1863, at Cleveland, Tennessee, where he received his preliminary education. He graduated with honors from the Vanderbilt Medical College in 1892. Soon after completion of his university course he located in McKinney, Texas, where he practiced until the time of his death. For many years Dr. Rucker was associated with Dr. T. W. Wiley in the management of a local sanitarium.

Dr. Rucker was a Mason and an Elk, and had many warm friends. He was a member of the Presbyterian Church. For many years he took a leading part in the Collin County Medical Society. He is survived by his wife, a brother, J. B. Rucker of Dallas; a half-brother, N. B. Hayes of Chattanooga, Tennessee, and three sisters, Miss Eula Rucker, Mrs. S. A.

McDowell of Dallas, and Mrs. Chas. Talley of Cleveland, Tennessee.

Dr. M. M. Smith of Dallas, died at his home, January 10, 1924, following a brief illness but a prolonged period of ill health.

Dr. Smith was the son of Felix E. and Mary Mann Smith, and was born in Bluff Springs, Texas, near Austin in 1864. His American ancestry dates back to colonial times. He received his early education in the schools of the community in which he was born, taking the degrees of Bachelor of Science and Master of Science in the University of Texas, at Austin. He received his degree in medicine from the Jefferson Medical College, Philadelphia, Pa., in 1891. After entering the practice of medicine he continued his



DR. M. M. SMITH.

studies through post-graduate schools, taking courses in pharmacy, general medicine, tuberculosis and medical insurance.

Dr. Smith practiced general medicine for sixteen years, and served for seventeen years as medical director of the Modern Order of Praetorians. He practiced in Austin, Texas, from 1890 to 1907, removing in 1907 to Dallas, his home until the time of his death.

Dr. Smith was married November 20, 1894, to Miss Eleanor Anderson of Austin. He is survived by his wife, two sons, two brothers and three sisters. One of his sons, Dr. M. M. Smith, Jr., is practicing medicine in Dallas, the other, Mr. Girard Smith, is an attorney of that city. Of his brothers and sisters, Mrs. B. A. Rountree and Miss Ruth Smith reside in Dallas, and Mrs. W. H. Thaxton and Mr. Wade Smith live in Austin, and Mr. Felix Smith in San Angelo.

Dr. Smith was never a church member, but entertained the highest respest and kindliest views toward religion. He was a lifelong Democrat, and active in political affairs. His father was a member of the State Legislature of Texas for several terms. In the field of fraternal orders, Dr. Smith was particularly active. He was a member of the Kappa Sigma Fraternity in college, and was made an honorary member of the Phi Chi Medical Fraternity. He was a 32nd Degree Mason, a past potentate of Ben Hur Temple of the Mystic Shrine, Dallas, and an Elk. He was a Rotarian, a member of the Automobile, Advertising and Press Clubs, and of the Chamber of Commerce of Dallas. He was also a member of the executive committee of the Salvation Army. He served at one time as city physician of Austin, Texas, was physician for the Deaf and Dumb Institute in Austin, and for a time was medical director of the Texas Sanatorium for Tuberculosis, at Llano. He was a lecturer in Baylor Medical College, Dallas. He made a detailed survey of tuberculosis in Texas at the instance of Governor Sayers. He was at one time president of the Texas Fraternal Insurance Society, at another time president of the Dallas Insurance League, and for several years chairman of the Medical Board of the National Fraternal Congress. His services to fraternal life insurance were particularly noteworthy. He was considered an authority in that field. He was secretary of the Regular Board of Medical Examiners under the first law requiring examination by a State Board, from the time of its organization in 1900 until the present Medical Practice Act became a law, in 1907. It is said the the records of this Board are accurate and made in great detail, quite at variance with many of the records of the several other boards we have had during and since that time. It has long been recognized that the profession of Texas, and the lay public as well, owed a debt of gratitude to Dr. Smith for his services in this particular.

Dr. Smith has been a member of the State Medcal Association since 1893. He has rendered much valuable service to organized medicine and public health during this time. He has served on many committees, most notable of which were those pertaining to medical legislation, the preparation of State Board of Health laws, the organization of county medical societies and the committee appointed to rewrite the constitution and by-laws, the report of which was made in 1902, and which was followed immediately by the reorganization of the State Medical Association under the then new plan of the American Medical Association. He has been a contributor to medical literature, through his own publication, first the *Medical News* and subsequently *Medical Insurance* and *Health Conservation,* and through the publications of the State Medical Association. Of importance among the papers read before the State Medical Association were the following: "A Monstrosity Without Limbs or Sexual Organs;" "Brain Surgery of Today;" "The Public Health and the State's Duty to Protect it." He was a Fellow of the American Medical Association, and nearly always attended the annual sessions of that organization.

It would be difficult to estimate the value of a life such as that lived by Dr. Smith. Unquestionably, he has left his personal impress on the affairs of medicine of his generation. He died possessed of just such riches as are usually left by those devoted to the cause of humanity as represented by the profession of medicine. He was by no means a pauper, but it is interesting, in such cases, to estimate the possibilities of as much devotion to more material matters. It must be a satisfaction to his family to know that he is highly regarded by his fellows of the medical profession, and the devotion

of his friends, with whom he has labored so long, would be a solace to him, could he know.

Dr. Walter B. Vaughan of Honey Grove, died at his home, September 4, 1923.

Dr. Vaughan was born in Virginia, March 4, 1859. At the age of 17 he moved to Texas, locating in Hunt County. Choosing the healing art as a life work, he entered the Louisville Medical College at Louisville, Kentucky, from which institution he graduated in 1891. Soon after graduation he located in Dial, Texas, ministering to the people of that community for eighteen years, at the end of which time he moved to Honey Grove, where he practiced up to the time of his last illness. In 1886, he was married to Miss Mary Dial. About four weeks prior to his death, Dr. Vaughan had a stroke of apoplexy, which proved more than his already weakened physical condition could stand.

Dr. Vaughan was a physician beloved by all who knew him, a Christian gentleman of the highest type and a man high in Masonic circles. He was a Knight Templar and a Shriner. He was an elder in the Presbyterian Church, and superintendent of the Sunday School of that church. Dr. Vaughan had been for many years a prominent member of the Fannin County Medical Society. He is survived by his wife and three children, Mrs. Delmar Taylor of Honey Grove, Mrs. J. E. Boots of Greenville and Walter Vaughan of Dallas.

BOOK NOTES

They were scribbled in sketch-books and fly-books,
In lectures, on lochs, by the seas;
And wherefore do people who *buy* books
Go purchasing *these?—Andrew Lang.*

Medical State Board Questions and Answers. By R. Max Goepp, M. D., Professor of Clinical Medicine at the Philadelphia Polyclinic; Assistant Professor of Clinical Medicine, Jefferson Medical College. Fifth Edition, Thoroughly Revised. Octavo Volume of 731 Pages. Philadelphia and London: W. B. Saunders Company, 1923. Cloth, $6.00 net.

This book has not been materially enlarged, but some new material has been added to bring it up to date, and to cover such questions as may be formulated for the next year or two. Some of the old material which seemed of no further practical use has been omitted.

The Examination of Patients. By Nellis B. Foster, M. D., Associate Physician to the New York Hospital; Associate Professor of Medicine at Cornell University, College of Medicine. Octavo of 253 Pages, Illustrated. Philadelphia and London: W. B. Saunders Company, 1923. Cloth, $3.50 net.

The following, purporting to be an extract from *The Journal Intime of Henri-Frederick-Scheveningen*, dated August 22, 1873, is appropriate to the contents of the book:

"Why do doctors so often make mistakes? Because they are not sufficiently individual in their diagnoses or their treatment. They class a sick man under some given department of their nosology, whereas every invalid is really a special case, a unique example. How is it possible that so coarse a method of sifting should produce judicious therapeutics? Every illness is a factor simple or complex, which is multiplied by a second factor, invariably complex—the individual, that is to say, who is suffering from it, so that the result is a special problem, demanding a special solution, the more so the greater the remoteness of the patient from childhood or from country life.

"The principal grievance which I have against th doctors is that they neglect the real problem, whic is to seize the unity of the individual, who claim their care. Their methods of investigation are muc too elementary; a doctor who does not read you t the bottom is ignorant of essentials. To me the ide doctor would be the man endowed with profoun knowledge of life and of the soul, intuitively divinin any suffering or disorder of whatever kind an restoring peace by his very presence. Such a doct is possible, but the greatest number of them lack th higher and inner life; they know nothing of th transcendent laboratories of nature; they seem t me superficial, profane, strangers to divine thing destitute of intuition and sympathy. The mode doctor should be at once a genius, a saint, a ma of God."

The author has endeavored in this volume to hel the medical practitioner, and that he has succeede well may be judged by the table of contents: "Th Theory of Practice;" Assembling of Data;" "Th Physical Examination;" "System Examinations; "Neurological Examinations;" "Examination of th Ear and Throat, Joints and the Extremities, and th Breast;" "Immunological Test;" "Tuberculin Tests, and "The Schick Test." He also gives a table of th chief causes of death in the United States, per hun dred thousand population, which is instructive.

Principles of Vital Statistics. By I. S. Falk, Ph. D Department of Public Health, Yale University Octavo of 258 Pages, Illustrated. Philadelphi and London: W. B. Saunders Company, 192 Cloth, $2.50 net.

The opening statement of the author's foreword "It is almost a truism that the progress of scienc is marked by the extent to which exact quantitativ data replace qualitative impressions; and in th broad field of public health, as distinct from it numerous contributory sciences, methods and result are gaged, and can be gaged only, by the intelligen use of vital statistics," is equaled only by the next "The most successful health worker is he who orient himself by constant and intelligent analysis of mor bidity and mortality returns."

The text is divided into nine chapters under th following titles: "Vital Statistics—What They Are; "The Census and the Composition of Population; "Births and Birth Rates;" Infant Mortality;" "Mor bidity;" "Sickness in the Community;" "Mortality; "The Causes of Death;" "The Interpretation o Statistics;" "Statistical Errors and Fallacies."

The book is of the usual excellence of these pub lishers and of Yale University, of whose faculty th author is a member.

Nursery Guide for Mothers and Nurses. By Loui W. Sauer, M. A., M. D., Senior Attendin Pediatrician, Evanston Hospital; Formerl Attending Physician, Chicago Infant Welfare and Assistant Attending Physician Children' Memorial Hospital, Chicago. Cloth, 12mo. Pages 188, with 12 Illustrations. C. V. Mosb Company, St. Louis. 1923. $1.75.

This work discusses the following subjects "General Care and Development;" "The Nursin Infant;" "The Premature Infant;" "Artificial Feed ing;" "Nutritional Disturbances of the Artificiall Fed Infant;" "Some Common Ailments;" "Care o the Sick Infant."

Written for mothers and nurses, this little volum is unencumbered by difficult technicalities and com plicated formulae. The author, having sensibl undertaken to make the task of his readers both easy and safe, is to be commended for having achieved his purpose admirably.

Texas State Journal of Medicine

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Vol. XIX **March 1924** **No. 11**

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH OF TEXAS

Feeblemindedness, according to the National Committee for Mental Hygiene, is one of the largest single factors in hereditary pauperism, juvenile vice and delinquency, adult crime and vagrancy, the spread of venereal disease, and the like. It is claimed that from 27 to 30 per cent. of the inmates of state prisons throughout the United States have been found feebleminded, and that 30 per cent. of the inmates of training schools, reformatories, workhouses, homes of refuge, and the like, are also feebleminded.

In a reformatory for women, in Massachusetts, it was found that 49 per cent. of those who had been guilty of promiscuous immorality, were mentally defective. The Vice Commission of Massachusetts found that 50 per cent. of 300 prostitutes examined were of the same type. In the municipal criminal court of Boston, 58 per cent. of the chronic and habitual drinkers were mentally below standard, as were also 28.5 per cent. of the drug users, 30 per cent. of the women arrested for immoral conduct, 25 per cent. of those arrested for larceny, 30 per cent. of the vagrants and 23 per cent. of the shoplifters.

In Georgia, 40 per cent. of the inmates of the almshouses, 34 per cent. of the inmates of county jails, 17.5 per cent. of the male inmates of the state prison, 42 per cent. of the women inmates of the state prison farm, 43.5 per cent. of the immoral women examined in the courts, venereal clinics, stockades and the like, 27 per cent. of the inmates of the Training School for Girls, and 28.7 per cent. of the children in orphanages, were found to be mental defectives. In the same state, a survey of the school children developed the startling fact that 3 per cent. of the whole number were found to be below normal mentally. The recital could be extended almost indefinitely, but the story would be the same.

Millions of dollars are being yearly expended for the care of the feebleminded in this broad and wealthy country of ours (outside of the State of Texas), most of which is merely for their care and keeping, there being practically no concerted effort to better their mental condition or to separate those who are mentally deficient by virtue of their surroundings, from those who are in like condition because of heredity or illness, in order that cure might be attempted. The courts, venereal clinics, almshouses, jails, penitentiaries and even insane asylums, are handling these people continuously, and for the most part, on a hopeless basis. Many of these unfortunates being arrested, tried, convicted, released and arrested, tried and convicted again, over and over, with no intervening effort whatsoever at reclamation.

The laws of our land recognize the fact that a child may not be held to strict accountability for moral misdeeds or criminal acts, and yet we are daily sending to our penitentiaries, and even to the gallows or the electric chair, adults with childish minds. We fail to see the ridiculousness (to say nothing of the tragedy!) of this procedure. We are turning into the busy marts of the fastest living country in the world both children and adults who are totally unfit for contact with their fellows, because of their poor mental development—and then we complain that the world is growing more immoral, day by day, in every way!

Feeblemindedness, according to Dr. Walter E. Fernald, "is the mother of crime, pauperism and degeneracy." The arrested mental development of the feebleminded may be, as we have said, because of heredity, or because of some malady of early life. Environment may be responsible for many mental abnormalities, but rarely does it account for the case of actually arrested development. In probably two-thirds of the cases feeblemindedness is hereditary. Ordinarily, it is not curable, but always it may be benefitted by training. The feebleminded are particularly prolific, and reproduce their kind with greater frequency than do normal persons. This is the greatest source of supply for our reformatories, penitentiaries and insane asylums.

Dr. Chas. A. L. Reed of Cincinnati, Ohio, states that there are more than a third of a million insane being cared for in institutions in the United States, and that there are nearly 15,000 epileptics and more than 40,000 defectives of various types in other institutions. In short, the public is caring for more than 400,000 persons in poorly-equipped custodial institutions, in contradistinction to hospitals and the like, where some effort at salvaging this human waste is being made. A physical survey, extending over four years, of the New Jersey State Hospital, an institution for the care of the insane, disclosed the fact that a large proportion of the inmates were suffering from chronic psychotic toxemia and other removable causes. Many of the inmates of this institution were restored to useful citizenship by proper treatment. Using the figures given out by this institution, Dr. Reed estimated that similar procedures in the other institutions in the United States, would result in a saving of more than $18,000,000, on maintenance alone—no account being taken of the economic value of those restored to normal pursuits.

As Dr. Reed says, "It seems almost a disgrace that where humanity, life and health, or, what is more precious than either, sanity, are concerned, to quibble about the chips and whetstones of cost and profit," but, "while considering economics, it would be sentimental, if not silly, to allude to the restored happiness of thousands of now bastiled inmates and to the joy of their millions of relatives and friends.

The State Medical Association of Texas has been, for years, begging and pleading that some systematic and scientific effort be made to give better care and treatment for our insane. The problem is broader and more far-reaching than that. A study of the subjects embraced under the general term, "Mental Hygiene," will point the way, not only to relief in a large measure from the burden of our insane, but to the reduction of the incidence of venereal diseases, the curtailment of crime, and protection against poverty.

A Survey of Texas Penal Institutions, at no cost to the State, was authorized by the last Legislature, upon the insistence of numerous women's clubs and patriotic men and women throughout the State interested in the welfare of our unfortunates. This legislation was secured by the Texas Committee on Prisons and Prison Labor, which organization is at the present time conducting the survey provided for. The expenses of the survey are being defrayed from a fund subscribed by interested persons. The survey includes numerous factors of importance in the general problem of the care and control of our convicts, so called. With this we are not concerned at the present writing. We are interested, mainly, in the mental and physical condition of our state prisoners, because of our belief that in many instances their crimes have been the result of mental and physical conditions which could have been cured.

We are, of course, jointly with other citizens, interested in the humanitarian factors involved, which are many and important. We cannot afford to be brutal to or negligent of, those to whom we have denied the right of self-protection. If we are requiring of individuals services which they are physically or mentally incapable of rendering, perhaps under the compulsion of brutal force; if we are housing with the physically sound those who are afflicted with communicable diseases, and if we are grouping in unsanitary surroundings those who are because of heredity and environment already depleted, and subject to further depletion through lack of proper food or wholesome air, we are, to say

the least of it, inhumane. It may be true that most of those who are thus abused would in like manner and voluntarily mistreat themselves, and that many of them do not deserve any better treatment, but that is beside the point. The effect of brutal treatment is upon *those practicing it* rather than upon the *individual who suffers.* If the committee in charge can delevop the facts in the case from this angle, a service will have been rendered humanity, the value of which can hardly be calculated.

Experts on mental hygiene will be furnished by the National Committee for Mental Hygiene, and the physical examinations will be conducted by ten clinical units, each composed of an internist, a surgeon, a pathologist, a roentgenologist, an ophthalmologist and otologist, and a dentist. These groups are being organized by President Dr. Scott of the State Medical Association, and the professional service rendered by the physicians and dentists comprising them will be without cost to the State or the committee, except in the matter of traveling expenses.

There are 4,000 prisoners distributed in 14 penitentiaries and camps. The groups are being organized in different parts of the State, so as to reduce to the minimum the travel, time and expense involved. It is expected that each group will be able to conclude its work within a few days' time, probably less than a week, except for those cases set aside for further and more intensive study. The Medical Department of the University of Texas will supply the laboratory equipment, and during vacation will work out many of the problems involving laboratory study.

The medical profession of Texas is proud of this opportunity to contribute to a good cause. While it is really the duty of the State to defray the expense of such a survey, including satisfactory fees for expert medical service, it is recognized that considerable educational work will have to be done among our people before they can appreciate the economic value of such a movement, and the necessity of more humane treatment of the wards of the State, *even those who have offended.*

State Health Officer Dr. Malone Duggan.—Dr. Malone Duggan, better known as from San Antonio but more recently from La Feria, has assumed the important duties of State Health Officer, vice Dr. W. H. Beazley, resigned. While we regret to see Dr. Beazley go, as of old we are pleased to join in the chant, "Long live the King," and to pledge to the new regime the same earnest and wholehearted support that has heretofore been forthcoming from the medical profession of the State, as represented by the State Medical Association of Texas.

The administration of Dr. Beazley seems to have been eminently satisfactory, and in passing from him to his distinguished successor

DR. MALONE DUGGAN.

we feel that it is due him to say so. He has confronted, to our certain knowledge, numerous disturbing situations and has met the issues fairly and squarely. Worthy of particular comment in his administration have been his coöperative efforts. He has succeeded in utilizing the services of welfare organizations and the money they have had to expend, to a degree very much to be appreciated.

Our new Health Officer is a native Texan, born in San Marcos, in 1868. That makes him much older than he looks to be. The accompanying likeness is very good of him. We once told a woman that she did not look to be as old as she was. We went into reverse gear immediately and stated that what we meant was that she was not as old as she looked. That did not seem to mend matters any and we threw on the emergency brake and stopped. Perhaps it is a good time to stop, now.

Dr. Duggan spent his childhood in San Saba county, and graduated in 1887 from San Saba College, subsequently spending a year in Vanderbilt University. This was followed by a special course in the University of Texas, in 1889. His medical education was begun in Missouri Medical College, in 1892, and was completed in the Medical Department of the University of Texas, Galveston, in 1894. He served an internship in John Sealy Hospital during his senior year. Dr. Duggan was married to Miss Victoria Hardy of San Francisco, in 1894. Immediately following his marriage, he entered general practice in San Saba, removing to Eagle pass in 1895, where he remained until 1905, during which year he moved to San Antonio. He remained in San Antonio until last November, when he moved to La Feria. He has reared and educated a family of seven children.

Dr. Duggan, although peaceful in disposition, as becomes the Irish, has been a soldier for many years. He served as an Acting Assistant Surgeon during the Spanish-American War, and was among the first physicians commissioned in the Medical Reserve Corps of the Army under the present National Defense Act. He was called into active service in 1912, on the Mexican Border, and in 1917, at the outbreak of the World War. His service in the World War was distinguished, indeed. He received a citation upon his return from France, in which it was stated that he displayed great courage as Regimental Surgeon, advancing with his unit, thereby making it possible to evacuate the wounded with facility and precision. His service was first with the 11th Field Artillery, and later with the 89th Division.

Dr. Duggan's connection with the public health and with organized medicine has been long and his service in both distinguished. He was one of the chief proponents of the social hygiene work in Texas, which was for a time fostered by the State Medical Association, and in many ways contributed to the development of obligations by the medical profession as relate to this and other problems in public health. He was the originator of the Round Table Study Clubs in the Bexar County Medical Society, a movement of considerable importance. Other accomplishments in this particular, notably his contributions to medical literature, might be mentioned, but we have promised to be moderate in our expressions. Besides, it is not necessary. It is sufficient to say that the State Health Department is in safe hands. Dr. Duggan will have the sympathetic support of many friends, inside and outside of the medical profession.

Health Week.—In accordance with annual custom, the Texas State Health Department will conduct a Health Week, beginning March 30 and extending through to April 5. In this work the State Board of Health will coöperate with county and city health departments, the press, city and county governments, and the several welfare organizations interested in the public health. The special features for each day during the Health Week mentioned, have been set out as follows: Sunday, March 30, sermons and lectures; Monday, health appraisal and food protection; Tuesday, fly and mosquito control; Wednesday, disease prevention; Thursday and Friday, child health; Saturday, April 5, general clean-up.

This movement depends altogether on local activities for its success. The State Health Department can do no more than plan and urge. In such an enterprise, the physician must have more influence than any other class of citizens. It is up to him to get busy. We are sure he will do it. Active medical societies should officially assume a leadership. We are presuming to go to our people now as prophets of good health and effective medicine. Here is an opportunity for a good beginning.

Annual Reports are due April 1, and if not received in the office of the State Secretary by that time, the entire membership of societies failing so to report stands suspended. That is the law and it cannot be changed, at least not until the House of Delegates meets in San Antonio next month. The great majority of secretaries will render their reports by this time, under which circumstances the fact of delinquency of those who have not paid their dues will be established beyond any doubt. No longer will the county society secretary, or the State Secretary, as for that, be able to eliminate the delinquency existing between January 1 and the date dues are actually paid. Up to the time of the annual report, the county society secretary can care for situations such as this, it being commonly understood and agreed that the three months involved is a sort of no-man's-land. Members are urged to help their secretaries by paying their dues without delay. It is an imposition

on devoted servants who are serving without pay, to require them to drag along and importune us from time to time, to do what it is our duty to do, and what should be our pleasure to do, pay the pitifully small stipend required of us for the support of organized medicine and the many public interests which it stands for.

There is a phase of this situation that our members do not often think of. There are 135 county medical societies, some of them large and some small. Each annual report received in the office of the State Secretary must be copied and frequently rearranged and overhauled extensively, the money paid in properly receipted and accounted for, and membership cards made out and mailed. This means considerable clerical work, and it must be accurately done. There is force enough in the office now (almost) to keep up with the work if dues and reports come in as they should, but where the work is doubled and redoubled *at the last moment,* a situation obtains highly conducive to error, not to mention the incidental imposition on the clerical force.

At the present writing (March 1), the books show that 896 members have paid their dues for 1924. This is 49 short of the payments made up to the same date last year, and ridiculously below what it *should* be for *any* year. Blue cards, showing membership for 1924, have been mailed to all members whose per capita assessments have been received in the office of the State Secretary. If so, the sooner the tracing begins, the better his card, he should make inquiry of his county secretary; and if the money has gone forward, of the State Secretary. It is possible, but not likely, that an error has been committed in the office of the State Secretary. If so, the sooner the tracing begins the better it will be for all concerned.

Preparations for the San Antonio Session are being satisfactorily prosecuted, so we are informed. We understand that the two large hotels, namely, the St. Anthony and the Gunter, will accommodate all of the activities of the Association except the General Sessions, which will be held in the big Methodist Church just across the street from the St. Anthony. These two hotels are on adjoining blocks. The distance between them is insignificant, and perhaps offers a moment's diversion for members passing from one meeting place to another. The Registration Office and the Commercial Exhibits, will be in the St. Anthony Hotel, and the House of Delegates in the Gunter Hotel. The Scientific Sections will be equally divided between the two. It is possible that the Commercial Exhibits will have to be divided, in like manner; at least, they may slop over from the St. Anthony to the Gunter.

As announced last month, reduced rates have been secured, on the one-and-one-half fare basis and the certificate plan, as last year. The selling dates will be April 27-29, inclusive, with return limit May 4. The required certificates will be supplied county society secretaries in ample time. These certificates will entitle members to the purchase of round-trip tickets at the reduced rates, the transaction being completed on the spot. The advantage of this over the usual verification plan is apparent. In this connection, those who are entitled to passes should make application at once, through the regular channels. It is our understanding that the roads will exchange passes, as heretofore.

While it is anticipated that there will be ample hotel room, it is urged that those who expect to attend take the matter up without delay with the hotel of their choice, or the chairman of the Hotel Committee, Dr. J. W. Nixon, Moore Bldg., San Antonio. There are all varieties of accommodation, from a cot on a sleeping porch to a suite of rooms in a palatial hotel, and from 25 cents to $25.00 per day.

We understand that the Entertainment Committee is very active. We have just received a letter, evidently addressed to us by mistake, from a "Real Oriental Dancer and Blues Singer." We do not know just what that means, but we are in a hopeful frame of mind. Of course, San Antonio is a long way from the border, but it is much nearer than most of us live. Judging from the activities of the Ranger force in San Antonio, there are many attractions thereabouts. Of course, this is all in passing, and does not mean anything if our respective wives see it.

The annual session of the Woman's Auxiliary will be held coincident with that of the State Medical Association, as before, and there will be an unusually attractive line of entertainment for the ladies.

The Physician a Political Factor.—This is the open season for the politician. Candidates for office are behind almost every bush, and some of them are running free in the open. The best time to see the whites of their eyes is when they start, rather than at the wind-up—which is in contrast with war conditions in revolutionary days—and that is the time to fire. The wise politician makes his alignments early, and establishes the value of his influence with his chosen candidates. That is why doctors make such poor headway in legislative matters, as a rule. They usually wait until the line-up is established, and then

vote their sentiments without saying anything about it. Sometimes they say little because of fear of offending some of their good patrons, but, as a rule, they are simply not interested. That won't do.

The medical profession wants nothing politically and desires nothing from a legislative standpoint, at least for itself. It does desire support for the protection of its people and for principle. Medical societies are organized for scientific purposes, mainly, and because of their very nature, cannot enter partisan politics. They cannot endorse men, but they can and should endorse measures, and as men stand for measures, it is the same thing in the long run. It only remains to determine who stand for the measures endorsed, then let conscience and judgment be the guide. But that is another story. Our purpose at this particular time, is to urge upon our members that they make themselves known in the game of politics, and at the present stage of its development. They should individually determine, particularly in the race for Governor and for the Legislature, who are favorably inclined, and then get in the band-wagon.

The JOURNAL will editorially publish the view of our Council on Legislation and Public Instruction as to the attitude of the candidates for the offices in which the medical profession as a whole may be particularly interested. And in the meantime, the State Secretary very much desires full and complete information of the political situation in each county. It is upon such information that the opinion of the Council will be formed. *The stitch in time idea applies.* The opponents of legitimate medicine and public health are saying nothing and sewing hard.

The Publicity Fund Collections are apparently dragging. At this writing (March 1), the fund is approximately one-third complete. A month ago, one-fourth of it had been collected. That is making haste slowly, indeed. As before stated, the Council on Legislation and Public Instruction can hardly plan the campaign and set a date for its beginning, until the money necessary to see it through is in hand. Considerable work is being done now, and at some expense, but the big end of the campaign, that part of it which is intended to attract public attention, is still considerably in the future. The money and time devoted to this enterprise, to date, cannot be said to be wasted, by any means. Really, the delay has been beneficial.

There is not a doubt in the world but that the entire amount will be forthcoming, and that the movement will succeed admirably, but the *psychological factors* must not be overlooked. A slow-moving body, even though it is potentially powerful, is not usually very impressive. Battles are won by assault, and to be successful, an assault should be precipitate and overwhelming. The legislative campaigns are in full swing now, and the people are alive to the very matters we will have to consider. A legislator who feels that public sentiment is being aroused in the interest of a legislative policy, will be much more agreeable to the consideration of such a policy than he would otherwise be, regardless of its rationale.

The Board of Councilors is active, and county society secretaries appear to be on the job. It seems that our members are a bit dilatory in remitting, even those who fully intend to contribute. *A dollar in hand is worth two in the bush.*

Solicit the Solicitor.—A representative of a book-publishing house interviewed us recently in the interest of a publication which he was pushing with considerable vigor and no little success. We turned the tables and preached a sermon to him on the general subject of good advertising. Very soon it was not clear just who was doing the soliciting. There was one idea which stood out, however, and that was that the profession of Texas desired that this publication be advertised in the JOURNAL. The agent (and he was frank to admit that he was a "book-agent") stated that he had been frequently asked why his house did not advertise with us, and that he would take the matter up with them by wire. This he did, and the result was a very satisfactory contract.

A gentleman representing a pharmaceutical house, invited our attention to several very excellent preparations which he was placing before the medical profession of four states, including Texas. We called his attention to the desirability of supporting his personal efforts with a little publicity in our JOURNAL. He very promptly stated that the matter had been called to his attention numerous times in his journey over the State, which made it easy for us to convince him of the desirability of owning a little space in our JOURNAL, and claiming a little of our influence. Upon his suggestion, we wrote the house; and upon our suggestion, he supplemented our efforts with a personal letter, under separate cover. The result was a very satisfactory contract.

We are not seeking to call the attention of our readers to our superior salesmanship. Our point is, frequent reference to the advertising business of the JOURNAL, by our members who are solicited for whatever purpose, and especially pertaining to medicine, helps.

ORIGINAL ARTICLES

NON-SURGICAL DRAINAGE OF THE GALL-BLADDER.*

BY

M. L. WILBANKS, M. D.,
GREENVILLE, TEXAS.

The widespread interest in the use of the duodenal tube as an aid to diagnosis and treatment of biliary disturbances, dates from the introduction of the so-called Lyon-Meltzer method of non-surgical biliary drainage. Since the appearance of Lyon's original work, numerous investigators have attempted to study and analyze the biliary tract pathology by duodenal analysis. The previous work of Einhorn and others demonstrated the possibility of obtaining and studying the contents of the duodenum.

The use of a solution of magnesium sulphate, following Meltzer's original suggestion, in 1917, was introduced by Lyon in 1919. He demonstrated conclusively, in a large series of cases, that its instillation into the duodenum was followed by an increased flow of bile, which was usually profuse and continued at a relatively rapid rate for half an hour, or for even longer periods. This has been my experience. In a number of cases the bile flowed very freely for more than an hour—the longer the flow, the clearer of flocculents. The samples obtained could be divided roughly into three fractions, which were designated by Lyon as "A," "B" and "C," bile, the "B" bile being much darker than the other two fractions. Arguing from Meltzer's original suggestions as to the existence of a system of crossed innervation of the gall-bladder wall, Lyon concluded that the magnesium sulphate produces a relaxation of the sphincter Oddi, and at the same time a contraction of the gall-bladder wall. From this hypothesis he further concluded that the light yellow A bile was from the common-duct, the darker B bile from the gall-bladder, following the contraction of that organ, and that the C bile was from the hepatic duct and higher biliary radicles, coming after the emptying of the gall-bladder.

A too close acceptance of Lyon's theory or conclusions may be misleading. This hypothesis is based largely upon clinical data. Careful experimental evidences of gall-bladder contractions following the use of magnesium sulphate in the duodenum is conspicuously lacking. Even if the normal contractions are increased by magnesium sulphate, such contractions must be extremely slight, if we are to accept the teachings of some of the most eminent physiologists, according to Dr. C. M. Jones of the Massachusetts General Hospital. The importance of this increase in gall-bladder contractions has probably been much overemphasized. Furthermore, in a large proportion of cases the sequence of A, B and C bile is not absolutely distinct. The separation of the A and C fractions is due to several factors. There is an increased flow of bile into the duodenum produced by the relaxation of the sphincter of the common bile duct and then a slight increase of bile from the gall-bladder and ducts. It is difficult, therefore, to agree to the value of obtaining accurate segregation of the duodenal contents, following the use of magnesium sulphate, into A, B and C bile.

The *x*-ray study of the biliary mechanism is, on the whole, disappointing. Only a relatively small percentage of gallstones can be recognized by the use of the *x*-ray. In a series of cases reported by Bassler, in which a positive *x*-ray diagnosis of gallstones was made, the diagnosis was found to be erroneous in 68 per cent.

The detrusor muscle of the gall-bladder consists of nonstriated fibres scattered through the fibromuscular coat, the function of which must be obvious. It is extremely probable that under normal conditions and with proper stimulation, it is capable of partially emptying the gall-bladder.

The function of the entire biliary apparatus is probably controlled to a large extent by stimuli derived from the duodenal mucosa, and also by advance reflex stimulation from the *gastric* mucosa. This applies not only to the motor action of the gall-bladder, but also to the rate of secretion of bile, and consequently to the flow of bile through the ducts. These stimuli may be regarded, in part, as hormones derived mainly from the gastric contents which are carried into the duodenum, and act upon the gall-bladder and secreting cells of the liver at that period of digestion when the bile is required. By the law of contrary innervation, Oddi's sphincter, which partially blocks the flow of bile when it is not needed, relaxes and bile flows into the duodenum. Magnesium sulphate acts in much the same manner, the acceleration of the flow of bile due to this artificial hormone being very marked, as shown by the relatively large amount of C bile obtained.

Experience has shown that if the bulb of the duodenal tube is located in the duodenum near the papilla of Vater, and a solution of magnesium sulphate is injected through it, in a few minutes there will be a free flow of bile into the duodenum, which can be

*Chairman's Address, Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 8, 1923.

aspirated for subsequent study. The quantity of bile is usually very small, until a few minutes after the instillation of magnesium sulphate. Following this is found the sequence of different types of bile, designated A, B and C bile. The A bile is usually rather small in amount, averaging ten or fifteen centimeters. It is assumed that the B bile is made up, in whole or in part, of the contents of the gall-bladder. It is much larger in quantity, varying in amount from two to four or five ounces and darker in color. When the supply of B bile is exhausted the bile again becomes thinner and constitutes the so-called C type, presumably from the hepatic ducts and the liver. The various types of bile are separately collected for chemical and bacteriological study.

The fluoroscope is used constantly to determine when the tube is in proper position, by revealing the curves which the tube makes. After the tube has passed the pylorus, it is either connected to an aspirating syringe or permitted to drain into a beaker, and the duodenal contents are obtained for observation. About fifty cc. of warm, sterile, 30 per cent magnesium sulphate solution, is instilled and the end of the tube again placed in the receptacle for observation. Failure to obtain gall-bladder bile after stimulation with magnesium sulphate indicates complete obstruction of the cystic duct, due either to stones, adhesions or pressure from without by a tumor. When there is inspisated mucus or tarry bile in the gall-bladder, or when the contents consist of calculi only, recovery of bile may be impossible, even after stimulation. This has been my experience, especially during the first drainage attempted.

This method of examination is of value in the diagnosis of cholelithiasis. A dark, turbid bile containing numerous micro-örganisms, with large quantities of mucus and pus and an increase in the cellular elements, is indicative of the presence of an infected gall-bladder. When such signs are accompanied by paroxysmal attacks of pain radiating under the right costal arch toward the back, they are of considerable value in the diagnosis of cholelithiasis.

While little can be expected from this form of drainage as a means of cure in cholelithiasis, the method is of undoubted value as a means of overcoming infection following operations, thus acting as a preventive measure in the recurrence of gallstones. Many severe cases of biliary stasis are due to atonic, infected gall-bladders. After biliary drainage a rapid change in the appearance and strength of the patient is usually observed, and an improvement in his digestion, with complete relief from acute attacks and from constipation, is noted. While this method of treatment is still in its infancy, and too new to draw final conclusions from, it affords definite relief in certain biliary affections for which radical measures have heretofore been required.

THE TONICITY OF THE COMMON BILE DUCT SPHINCTER.*

BY

FENN RIDDLE, B. S., M. D.,

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About three years ago Dr. F. C. Beall of Fort Worth, reported a case in which barium had passed into the bile ducts. His patient was troubled with nausea and vomiting when the barium was given. Acute pancreatitis with abscess in the upper left part of the lesser peritoneal cavity, was revealed at operation. The patient died, and no autopsy was done. Dr. Beall concluded that there was an incompetent papilla of Vater, with

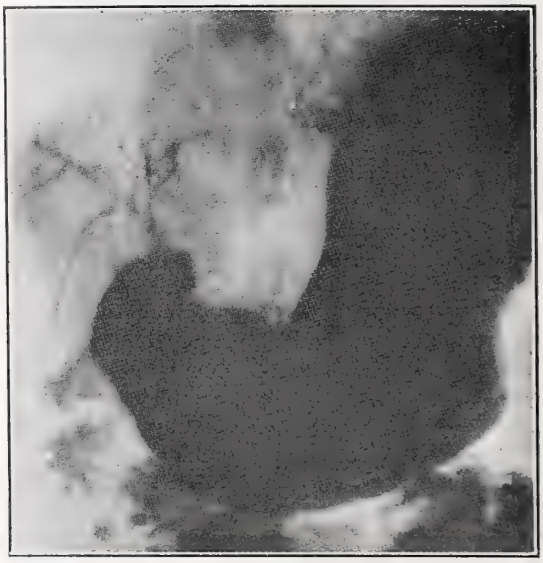

Fig. 1.

ascending infection, which produced pancreatitis.

Later, I noticed a report by Dr. F. B. Stephenson of Denver, Colorado, in which a patient after having the gall-bladder removed (the pathological report was "mulberry" gall-bladder), complained of symptoms which indicated a gastric or duodenal ulcer. This patient was given a barium meal, and barium was noticed thirty minutes later in the bile ducts. The bile ducts would fill with barium when the patient was reclining and empty when he was standing. A number of roentgenograms were made,

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 10, 1923.

many of which showed barium filling the smaller radicles of the liver (Fig. 1). One year later, another barium meal was given and the same condition was noticed. During the year he had no signs or symptoms of hepatitis or choledochitis.

In view of this discovery, I thought it might be possible to break down the papilla of Vater by inflating the duodenum, and that gall-bladder lesions, bile duct disorders and probably hepatic lesions, might be diagnosed in the same way that urinary disorders are diagnosed by pyelograms.

While visiting the Mayo Clinic, I learned that Drs. Judd and Mann had measured the tonicity of the papilla of Vater in dogs from the common duct side by inserting cannulae in the common ducts. They concluded that the tonicity was less in animals without gall-bladders (such as the deer, mouse and pocket gopher), than in animals with gall-bladders

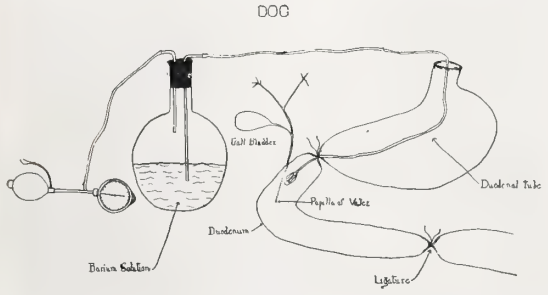

FIG. 2.

(such as the dog). They also concluded that following a cholecystectomy the tonicity is lowered. Judd explains this lowered tonicity by the fact that there is a paralysis of the papilla of Vater and the nervous mechanism is upset, despite the compensatory dilatation of the common ducts following cholecystectomy.

I was unable to find an account in the literature of anyone breaking down the papilla from the duodenal side. At the Harvard Surgical Research Laboratory, I made the following attempts to measure the tonicity of the papilla of Vater from the duodenal side, since it had been measured only from the common duct side:

Experiment No. 1.—A barium meal was given a dog. Later, apomorphin was given, which produced vomiting. Immediate fluoroscopic examinations and roentgenograms showed that the barium had not been forced into the common duct from the duodenum. The pressure in the duodenum produced by peristalsis and vomiting was not great enough to break down the sphincter of Oddi.

Experiment No. 2.—Atropin sulphate was given, with the idea of relaxing the muscles of the papilla, and the former experiment repeated. The papilla was not broken down by the force of the vomiting.

Experiment No. 3.—Likewise, magnesium sulphate and barium solutions were forced, with no results. Magnesium sulphate was used, with the idea of relaxing the papilla of Vater. Its physiological action is probably cholagogic, though some authorities think it causes a spasm of the papilla.

Experiment No. 4.—An abdominal section was made on an etherized dog and a duodenal tube passed into the duodenum (Fig. 2). The gastro-duodenal and the duodeno-jejunal junctions were ligated with catgut, thus enclosing the cap of the duodenal tube in the duodenum. A mixture of India ink, methylene blue and barium was injected, thus inflating the duodenum with each rise in pressure, and roentgenograms were made. It took 300 m.m. of mercury pressure to break down the papilla of Vater, and force the barium into the common duct.

Experiment No. 5.—At the Boston City Hospital a duodenal tube was inserted into the duodenum of a male tabetic 45 years of age. The patient was placed, face down, on an *x*-ray table (Fig. 3). A block was placed under the ensiform cartilage, a little to the left of the mid-line. The weight of the body when lying on this block occluded the lumen of the duodenum, being enclosed between the anterior

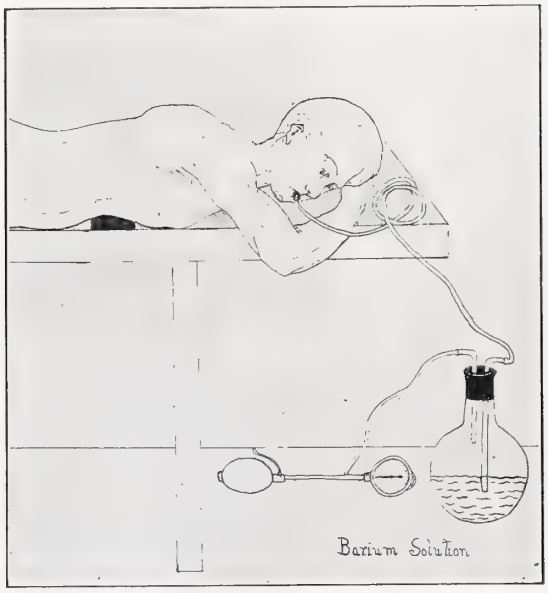

FIG. 3.

abdominal wall and the vertebral column. Barium was pumped into the occluded duodenum at definite pressure. With each 10 m.m. of mercury rise in the pressure, roentgenograms were made. During three attempts, 160 m.m. mercury pressure was produced with safety to the patient, and the papilla did not break down. The roentgenograms showed a distended duodenum, a very large cap and no barium regurgitating through the pyloric valve. It is remarkable that the pyloric valve and the papilla of Vater, can withstand a pressure of 160 m.m. of mercury.

Experiment No. 6.—Drainage with a duodenal tube in several cases of catarrhal jaundice showed that many times bile flowed freely before magnesium sulphate was injected.

A slight vacuum pull produces a rather generous flow of bile in some cases, especially those affected with catarrhal jaundice. This would lead one to suspect that these patients might has an incompetent papilla, or at least a papilla with a low degree of tonicity.

Howell reports that a pressure of 250 m.m. of water is necessary to break down the

papilla of Vater in the human when exerted from the common duct side. Results from the above experiments indicate that it takes more pressure from the duodenal than from the common duct side, to break down the papilla of Vater.

CONCLUSIONS.

In view of the above clinical and experimental observations, it might be said that:

(1) Animals without gall-bladders have less pressure on the papilla of Vater than animals with gall-bladders.

(2) After cholecystectomy there is less tonicity of the papilla.

(3) The normal tone of the papilla in man is 250 m.m. of water, measured from the common duct side. It takes more pressure on the duodenal side than it does on the common duct side, to break down the papilla. A pressure of 160 m.m. of mercury failed to break down the papilla from the common duct side in the human.

(4) Magnesium sulphate does not relax the papilla, but probably acts as a cholagogue.

(5) An incompetent papilla may be the cause of ascending infections and may thereby account for some of our vague causes of catarrhal jaundice or other biliary lesions. The most prevalent theory is that of infection traveling through the lymphatics.

ABSTRACT OF DISCUSSION.

Dr. R. W. Knox, Houston: It seems to me that gall-bladder infection is a sequence of infection of the intestinal tract, the same condition which produces appendicitis. As a proof of this, we know that the remedies for the relief of the intestinal tract hold the inflammation of the gall-bladder or appendix in abeyance but do not cure the condition until the seat of the infection is removed either by cholecystectomy or appendectomy. Therefore, the intestinal infection is the primary cause of the diseases mentioned.

Dr. A. E. Sweatland, Lufkin: I do not see why the gall-bladder could not become infected from the intestinal tract. I have had my doubts concerning the etiology in many cases of cholecystitis, whether or not stones were present. Not all gall-bladders with stones should be removed, any more than all gall-bladders without stones should be spared. The cases in which the gall-bladder was not removed will, by proper care and diet, get well and have a normally functioning organ, as Dr. Knox has stated. It may take a year or two, but these patients do quite as well as those in whom it has been removed, and often much better. This has been found the case in instances where secondary operations have been performed, for other surgical conditions.

If we would forget about the matter of infection in all gall-bladder cases, and just remember that the patient has never eaten properly, we would get away from the idea that specific micro-organisms produce all gall-bladder disease.

Dr. E. D. Maloy, Temple: I want to ask Dr. Riddle if he has noticed any difference in the flow of bile into the duodenum when the magnesium sulphate solution is introduced into the duodenum through the duodenal tube, as is done in drainage, and when the magnesium sulphate solution is taken by mouth and allowed to go through the stomach into the duodenum in the natural way. If he has noticed any difference, I would like to know to what cause he attributes the difference. Some who are doing a good deal of biliary drainage with the duodenal tube claim that the magnesium sulphate taken by mouth will not produce the flow of bile the same as when put into the duodenum with the duodenal tube. If their position is correct, what could account for the difference? Can it be possible that the duodenal tube causes the stimulation of the parasympathetic nervous system? In support of this possibility, I quote from Pottinger's article on the autonomic nervous system, published in the *Journal of Endocrinology* for March, 1921:

"The sphincters of the intestinal tract and bladder and the trigone are activated by the sympathetics and provided with inhibitory fibers by the parasympathetics. The glands and musculature of the enteral system, including the gastro-intestinal canal (except the oesophagus and cardiac end of the stomach) and all structures developed from it, namely, lungs, liver, pancreas and body of the bladder, are given inhibitory fibers from the sympathetics. The parasympathetics activate the entire enteral system, including the respiratory tract, liver, pancreas and body of the bladder, and send inhibitory fibers to the heart and the sphincters.

"The sympathetic nervous system, with the glands allied to it, the adrenals, thyroid, pituitary and possibly, the gonads, have to do with growth metabolism and defense.

"The *parasympathetic system*, on the other hand, provides sustenance for the individual. It presides over the appetite, and the digestion and absorption of food. It supplies all the necessary juices for digestion, salivary, gastric, intestinal, pancreatic and biliary, and provides the digestive tube with motor power for bringing ingested food into intimate contact with the secretions, for propelling them onward and finally for ejecting the refuse from the body."

Now, as the parasympathetics have the activating control of digestion, and as the bile is one of the digestive juices, could a duodenal tube stimulate or activate the parasympathetics and give an increased flow of bile, or is the biliary flow due to the magnesium sulphate—no matter *how* it enters the duodenum?

Dr. Penn Riddle, Dallas (closing): I see no reason why administering magnesium sulphate by the mouth should not be as effective as by the duodenal tube. Hydrochloric acid will increase the flow of bile when administered by a duodenal tube almost as well as magnesium sulphate. Therefore, a mixture of the two (the magnesium sulphate will mix with the hydrochloric acid in the stomach), will give the same flow of bile as the sulphate solution administered by the duodenal tube. I think that magnesium sulphate as a therapeutic agent in biliary disorders, is worth very little. It is of some value in producing bile flow, for aspiration and examination for bacteria, pus and pancreatic ferments.

Dermatosis From Fur.—Reports have been published of persons who have suffered severe eruptions and irritations of the skin following the wearing of furs. Investigation has shown that these disturbances are caused by paraphenylendiamin which is used to dye furs black and by quinone, an oxidation product of paraphenylendiamin which gives a brown color. The untoward effects may be prevented largely by extreme care in the finishing and dyeing processes, with special attention to removing all excess dye, particularly traces of quinone, from the fur.—*Jour. A. M. A.*, January 26, 1924.

SOME CONSIDERATIONS OF DISEASE OF THE BILIARY TRACT AND ASSOCIATED VISCERA.*

BY

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Much is being written on diseases of the gall-bladder and liver and their relationship to diseases of the pancreas, stomach, duodenum, neighboring lymphatic structures and associated organs. Opinion is divided on the relationship of disease of the gall-bladder, liver, etc., to disease elsewhere, and particularly to disease of neighboring structures.

Some hold that most diseases of the gall-bladder are secondary to hepatitis, the infection being transmitted either through the portal circulation or the general circulation. Others hold that the gall-bladder is always the primary focus of infection, and that the liver, lymph structures, pancreas, etc., become secondarily infected, through the neighboring lymphatics and the close vascular relationship of the contiguous organs.

Deaver, years ago, taught that the gall-bladder became infected first, probably through extension from the appendix or some other focus, and that the pancreas became involved directly as a result of disease of the gall-bladder and ducts, through the neighboring lymphatics. He emphasized the fact that chronic interstitial pancreatitis is nearly always the result of disease of the gall-bladder and ducts and a subsequent pancreatic lymphangitis. This belief is being greatly strengthened by a preponderance of evidence, especially in the light of recent knowledge of the lymphatic arrangement of the liver, gall-bladder, ducts, etc., and their inter-relationship with the pancreas and neighboring organs.

Graham, Peterman, and others, have written much on the lymphatic origin of cholecystitis, choledochitis and the associated pancreatitis. They have found hepatitis a constant accompaniment of cholecystitis. Graham, from a series of thirty cases examined in 1918, made a detailed report of eight cases, subjects of acute cholecystitis and hepatitis. He stated that 87 per cent of his series of cases of cholecystitis were associated with enlarged livers. He compared this high figure with that of Kehr, who reported that from 15 to 20 per cent of cholecystitis is associated with hepatic enlargement.

MacCarty and Jackson, at the Mayo Clinic, in an exhaustive study of the relation of hepatitis to cholecystitis, found that 90 per cent of the gall-bladders operated upon at the Mayo Clinic, were chronically inflamed. In one series of 4,824 gall-bladder cases, 4,430, or 91.9 per cent, were found to be chronically diseased. In their series of 58 cases, reported as having been studied in relation to hepatitis, 81 per cent showed chronic inflammation. The livers were studied independently of any knowledge of the condition of the gall-bladders. From the pathological studies of the sections of liver tissue, they found that the inflammation in the liver consisted of a periductal lymphocytic infiltration and fibrosis, both processes at times extending between the columns of liver cells, which were found to be occasionally atrophic, vacuolated or distorted. Extra and intra-cellular pigment was occasionally found, and the small bile ducts were sometimes found destroyed. They also found that the reaction varied in amount, the degree of the reaction apparently bearing no direct relationship to the degree of reaction in the gall-bladder. They concluded that if the inflammatory reaction was from the gall-bladder by continuity, a large portion of the liver would be frequently involved in cholecystitis, a fact to be considered in treatment, the liver being a focus of infection as well as a possible source of general disturbance from interference with normal hepatic functions. They said further, that such a condition remaining in the liver after cholecystectomy or cholecystostomy, might account, at least in part, for the fact that some patients, following these operations, continue to have "attacks" similar to their preoperative troubles. Summing up their findings, they concluded that chronic cholecystitis is frequently, if not always, associated with chronic hepatitis, and that many of the obscure general symptoms frequently associated with a diseased gall-bladder may have their origin in chronic disturbances of hepatic functions, which may account for the persistence of symptoms following operations on the gall-bladder and ducts.

Let us turn our attention for a moment to the possible source of secondary infection of the gall-bladder and ducts, from some distant focus within the body. There are two factors which may play a part. First, there is the method of bacterial infection from some portal of entry into the general circulation, as for example, septicemia from diseased tonsils, teeth and other known foci of infection. Second, there is a specific cholecystitis which can be produced, experimentally, by chemical means. As to bacterial infection of the gall-bladder, we need but refer to the epoch-making work of Rosenow, in his studies of the elective localization of

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specific strains of bacteria. He has shown that streptococci, proven to have an affinity for the gall-bladder when injected intravenously, failed to produce cholecystitis when injected directly into the lumen of the gall-bladder. He has demonstrated that intravenous injection of streptococci, and in some instances of colon bacilli from acute appendicitis, has been followed by marked localization and lesions of the appendix in rabbits, whereas attempts to produce appendicitis by way of the mucous membrane have been unsuccessful, unless the blood supply is markedly interfered with. Thus it would seem that the normal mucous membrane of the intestinal tract affords marked protection against invasion by the bacteria usually found there in disease. The same thing may be said of infection of the gall-bladder, appendix, stomach, etc. Therefore, a break in the continuity or increased permeability of the lining cells of the intestines, gall-bladder, etc., from trauma, or otherwise, appears necessary for local invasion, whereas in hematogenous infections the bacteria seem to gain entrance into the blood stream chiefly through a chronic, localized focus of infection.

The place of localization of bacteria after entrance into the blood stream, aside from the well-known factor of trauma, or the *locus minoris resistentiae,* has heretofore been considered as more or less accidental. Rosenow's work certainly has seemed to controvert this idea. He firmly believes that elective localization of certain types of bacteria, producing definite disease syndromes, coming by way of the blood stream from known or unrecognized foci of infection elsewhere in the body, depends upon finely adjusted conditions. He cites as an example the fact that in typhoid fever, although the blood is teeming with bacilli, the lesions are chiefly limited to Peyer's patches and other intestinal lymphoid structures. The same thing may be said of the pneumococcus in lobar pneumonia, yet the lesion is limited to the lung structure, and rarely attacks or localizes elsewhere. This may also be said of the *streptococcus viridans* in chronic septic endocarditis, and so on. Let us review some of Rosenow's statistics on the subject.

Of 68 animals injected with 14 strains of bacteria from appendicitis, 68 per cent developed hemorrhagic lesions of the appendix; 60 per cent of 103 animals injected with 18 strains from ulcer, showed hemorrhage and ulcer of the stomach, and 80 per cent of 41 animals injected with 12 strains from cholecystitis, developed lesions in the gall-bladder. This he found to be in sharp contrast with the incidence of lesions in these organs (3 per cent, 17 per cent and 4 per cent, respectively) following injection of 44 animals with 34 strains of streptococci from miscellaneous sources. The specific lesions developed in the respective organs not only more commonly, but were often quite marked when lesions in other organs were slight or absent. Moreover, the strains from *acute* ulcer, cholecystitis and appendicitis, especially produced lesions more marked than those from the chronic forms of these conditions.

The proof by Rosenow that streptococci in the infected tonsils and teeth may have elective localizing power, placed these so-called harmless infections in the front rank in importance as sources of hematogenous infection. Clinical evidence is not lacking in support of this contention of the casual relationship of focal infection and general systemic disease. Many patients suffering from acute or chronic infection of the gall-bladder, stomach, etc., are harboring chronic foci infection in their teeth, tonsils, sinuses, etc. Acute attacks of appendicitis, cholecystitis, ulcer of the stomach and duodenum, etc., frequently follow exacerbations of sinus disease, tonsillitis and diseased teeth. Rosenow has been able to demonstrate the presence of streptococci having elective affinity for the appendix, in the tonsils at the time of acute appendicitis following tonsillitis, and their absence as recovery ensued. He was able to deduce the fact that injection of streptococci alone from focal infections usually cause marked lesions in the stomach and duodenum, and few, if any lesions of note in the gall-bladder. Following the injection of the colon bacillus the gastric lesions were slight, while those in the gall-bladder were marked. He found that the most marked lesions, however, occurred when a mixture of the streptococcus and colon bacillus was injected.

The importance of studies of focal infection and elective localization is strikingly exemplified in the case of a patient who complained of distress after eating; repeated attacks of moderately severe pain in the region of the gall-bladder and pancreas; recurring attacks of diarrhea, and marked loss in weight (60 pounds). A general examination was negative, except for slight tenderness in the right hypochondrium. Two devitalized, abscessed teeth were removed, and an abscess where a tooth had been extracted years before, was drained. The patient continued to lose weight. Six months later the tonsils were removed, following which gradual improvement was noted. The distressing symptoms disappeared, and the

patient regained her health and most of her weight.

It is interesting to follow the elective localization of this particular type of organism in a series of experiments in the case just referred to. The primary culture from the tonsil of this patient was injected into one rabbit and three dogs. One of the dogs died in twenty-four hours; the other animals were chloroformed in forty-eight hours. All four animals showed lesions of the gall-bladder, pancreas and stomach. The gall-bladder and pancreas were hemorrhagic and edematous, the lesions in the pancreas being more marked in the head. The stomachs appeared very different from stomachs following injection of ulcer strains. The acid-secreting portion of each stomach was extremely hyperemic and showed numerous fine, superficial hemorrhages, while the pyloric end was normal. The streptococcus isolated from the edematous fluid surrounding the pancreas in one of the dogs was then injected into a dog and into a pregnant cat. Marked lesions of the gall-bladder and pancreas developed in both, but the stomach in each was spared. The cat aborted, and the one nearly full grown fetus available for examination showed hemorrhagic fluid in the peritoneal cavity, and marked edema and small hemorrhages of the pancreas. Cultures from the lesions of the fetus, of the mother cat, and of the dog, yielded the streptococcus injected.

About one year after tonsillectomy, this same patient began to lose weight and strength. At this time three encapsulated roots of teeth were found and removed surgically. Cultures of two of them yielded green-producing streptococci; the other was sterile. Injection again showed elective localization in animals. With the complete removal of these foci the patient fully recovered her health and strength.

The occurrence of lesions in the gall-bladder and pancreas of an animal following injection of bacteria from cases of suspected cholecystitis without stone and with pancreatitis, and the relatively high incidence (21 per cent) of lesions in the gall-bladder following injection of the ulcer strains, and in the stomach and duodenum (29 per cent) following injections of the gall-bladder strains, suggests that the common association of two or more of these conditions in man may also be due to embolic infection by bacteria having affinity for the structures involved.

The demonstration that the foci of infection in tonsils and teeth, so commonly noted in patients with ulcer of the stomach, cholecystitis, pancreatitis, or appendicitis, contain bacteria which reproduce these respective diseases in animals, suggests strongly that such foci are important factors in the production of these conditions in man. A focus of infection that is teeming with micro-organisms, wherever found (it may be in the intestinal tract, which for mechanical reasons can neither heal nor drain), should be regarded as a test-tube with permeable walls, embedded in the tissues. In consequence, the continued growth of the living bacteria, and their products, ultimately tend to overwhelm the protective mechanism of the host (Rosenow).

The careful elimination of foci of infection should become a routine procedure in both the medical and surgical management of these diseases. The foci should be removed before the mechanical factors, such as scar tissue in ulcers, gall-stones in cholecystitis and fecal concretions or kinks from adhesions in appendicitis, have come to play a dominant part. At times the resistance of the host becomes so lowered and the secondary process so well established, that removal of the primary focus is not sufficient to eradicate the disease and eliminate the source of infection. In such cases it is necessary to eliminate the disease locally, as well as clean up all known foci.

The elective localizing power of the colon bacillus has rarely been demonstrated in cholecystitis and appendicitis. The experiments by Rosenow, at the Mayo Clinic, strongly indicate that the colon bacillus is usually a secondary although important invader, especially in acute cholecystitis and appendicitis, and that it plays only a minor part in the etiology of ulcer of the stomach. The old hoax about typhoid fever predisposing to gall-stones, and that each gall-stone represented a calcareous monument erected to the memory of a dead typhoid bacillus, has passed into memory.

I have tried to show that disease of the gall-bladder and biliary tract is either primary or secondary to disease of the liver and associated viscera. The bulk of accumulated evidence indicates that the gall-bladder is infected primarily, from some distant focus, and that the hepatitis, a constant accompaniment of the disease, is a secondary infection, by way of the lymphatic, or perhaps the vascular anastomoses in the particular regions. The question might be asked whether or not the gall-bladder may become infected from a pre-existing hepatitis, caused by a blood-borne infection from some distant focus, perhaps through the portal circulation. I want to emphasize the fact that this infection, from whatever source, is an infection of the wall of the gall-bladder, and not of the

mucosa, except to a negligible degree. This infection is not the result of an ascending infection of the bile ducts from a duodenitis, but undoubtedly an infection of hematogenous origin. I want to emphasize further, that it is not probable that we cure or even arrive at any considerable diagnostic information, by duodenal drainage, after the method suggested by Lyon. It is impossible to drain the wall of the gall-bladder by duodenal drainage. Culture of the duodenal contents and bile products, fails to demonstrate the presence of the specific micro-organisms, found after operation by culture of the walls of the gall-bladder. The latter micro-organisms have been shown by animal experimentation to have infectivity and elective localization, as pointed out above, but this is not true of the liquid bile obtained by means of the duodenal tube. On the other hand, Drennan, of the Mayo Foundation, has corroborated the statement that bile from cholecystitis is sterile, except in acute cases or in acute exacerbations of chronic cases. Drennan found that the bile of only 19 per cent of the gall-bladders removed because of cholecystitis contained organisms, and that the *bacillus coli,* probably a secondary invader, predominated.

The production by Mann of a specific cholecystitis, by the intravenous injection of Dakin's solution, supports the idea of elective localization, from the chemical standpoint. It may be possible that acute cholecystitis is produced by some chemical irritant entering the blood, either from without or from disturbed metabolism. In investigating the bile factor in pancreatitis, he found that there were grounds for the theory of the reflux of bile in the pancreatic duct, based upon both an anatomic and a physiologic arrangement. He showed that such a reflux of bile might rarely be the cause of chronic pancreatitis. Reflux of sterile bile, even if the anatomic arrangement of the ducts at the sphincter of Oddi and the physiologic mechanism permitted, has failed to produce acute hemorrhagic pancreatitis in the absence of other factors. Injections of infected bile, trauma and bile under considerable pressure, however, have resulted in pancreatitis. On the other hand, bile has been found in the pancreas, filling its ducts, without acute pancreatitis supervening. Reflux of bile, alone, is not the exciting cause of acute pancreatitis, except in a very limited number of cases, granting it is possible anatomically, and assuming a peculiar relationship, made possible at times by a spasm of the sphincter of Oddi.

We are compelled, then, to come back to the hematogenous theory of infection of the gall-bladder from some distant focus, and to the belief that extension of infection takes place from the gall-bladder to the pancreas, liver, etc. The hepatitis so frequently found at operation, is either secondary to cholecystitis or a concomitant infection, and is probably not an independent entity, but a part of the whole general process of infection of the biliary system and its spread by means of the lymphatics.

SUMMARY.

1. Disease of the gall-bladder and ducts is related to disease of the liver, pancreas, neighboring lymphatic structures, stomach and duodenum.

2. Gall-bladder disease is usually primary, but may, at times, and under certain conditions, be secondary to hepatitis.

3. Gall-bladder disease and disease of neighboring viscera, are often associated by virtue of common sources of infection, such as tonsils, teeth, accessory sinuses of the head, etc.

4. Chronic interstitial pancreatitis is nearly always the result of extension of infection from the gall-bladder and ducts, through a pancreatic lymphangitis.

5. Corroborative evidence has been offered of the elective localization of specific strains of bacteria, found in certain focal infections, for the gall-bladder, stomach, duodenum, appendix, and other organs.

6. The infection of the gall-bladder is a mural infection, blood-borne, and is not due to an ascending infection from the duodenum through the gall-ducts. This is proven by culturing bile taken from the lumen of the gall-bladder, and then culturing an extract of the walls of the diseased gall-bladder, and comparing the results.

7. In a few individuals, it may be possible, because of a peculiar anatomical arrangement and certain physiological factors entering into the question, for bile to be forced into the pancreatic ducts. The bile factor alone, in the formation of pancreatitis, is not a sufficient causal agent in any considerable number of cases.

8. It is unlikely that we do any great good in draining a diseased gall-bladder by duodenal drainage after the method of Lyon, as the pathology lies in a mural infection, and only to a very minor degree in a mucosal involvement.

9. The natural deduction would be in support of cholecystectomy, and radical removal of all known foci of infection, in disease of the gall-bladder, other things being equal, and the liver permitting, provided medical care proves unsatisfactory. This does not apply to chronic pancreatitis, where

cholecystostomy would be the operation of choice.

10. The question of gall-bladder disease, in cases of liver insufficiency, marked jaundice, white bile in the common duct, and in obstruction with jaundice and prolonged coagulation time of the blood, presents some of the knottiest and most dangerous conditions in all surgery.

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SOURCES OF ERROR IN ROENTGENOLOGICAL DIAGNOSIS OF PEPTIC ULCER.*

BY

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"We learn more by our mistakes than our successes," was the trite remark of a friend, the truth of which has been verified and amplified with passing years. However much we may wish to the contrary, so long as physicians are human, errors in diagnosis will occur. It is not my purpose to unduly emphasize or magnify these errors, nor to confuse our minds to the point of discouragement. I desire merely to attempt a brief discussion of the causes that contribute to error, in the hope that the time thus spent may perchance prove mutually helpful. Moreover, let me hasten to say that the rapidity, facility and accuracy with which organic lesions of the stomach and duodenum are recognized by skilled roentgenologists, is scarcely surpassed in any sphere of clinical investigation. The accuracy with which these organic lesions are eliminated from those cases not of organic origin, is equally significant.

The so-called dyspepsia patients we have with us always; every physician has many of them to deal with. Their symptoms are varied, often severe, complex and complicated, and their disabilities are expensive and disconcerting, both to patient and physician. The burden of proof upon the clinician, then, is to demonstrate whether the condition is functional or organic. How can we escape the issue that every patient presenting subacute or chronic gastric symptoms is a potential ulcer case until proven otherwise? Carcinoma, of course, comes in for its share of consideration in organic lesions, but our statistics indicate that it occurs much less frequently, in the proportion of 11.5 per cent of carcinoma to 88.5 per cent ulcer, or 55 cases of the former to 422 of the latter, in a series of 3,665 *x*-ray examinations of the gastro-intestinal tract. Again, there are many reasonable conclusions without definite evidence to establish the fact, that ulcer often precedes carcinoma, or that carcinoma develops upon the site of ulcer. In our work one patient in seven subjected to *x*-ray study is found to have organic pathology—approximately one in eight has peptic ulcer. I, therefore, suggest that the roentgenologist consider all stomachs normal, regardless of history, until proven otherwise. History and clinical and laboratory findings, are not to be considered by him; his opinions must be based on roentgen ray evidence only, and his diagnosis must stand or fall upon this single test. So the burden of proof that a patient has an ulcer is on the roentgenologist.

There are the so-called indirect signs of peptic ulcer, such as alterations of peristalsis, spastic contractions, retentions, etc., which are of value only in that they stimulate to more careful search for deformities, or offer corroborative evidence in doubtful cases. If not accompanied by permanent contour deformity they are of no value. If, then, the deformity itself is insisted upon, it follows that without deformity there is no ulcer, roentgenologically speaking. It also follows that the deformities must be carefully differentiated, those of intrinsic from those of extrinsic origin. If we are satisfied that the deformity in question is due to causes outside the stomach and duodenum, peptic ulcer is eliminated. This brings us to the point of paramount issue and the one I would like especially to emphasize, that we insist upon contour deformity, which deformity must necessarily be of intrinsic origin. In arriving at this point we pass through many trials and

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tribulations, for our difficulties are many, and their sources sometimes hard to discover.

Let us first consider those errors of technique which are sources of erroneous conclusions. Complete filling of the stomach and duodenum is of primary importance. The food must be heavily bariumized, the opaque media well suspended, in liquid form and free from coarse particles. The patient must be examined in the fasting state, without previous lavage, so that the stomach will be as nearly empty as is possible; then if liquid content is found, its presence must be explained by subsequent findings. If the examination is fluoroscopic, which is our practice, and which method has many arguments in its favor over the radiographic method, the examiner must have thorough pupil dilatation. Haste at this point may mean a failure that could have been avoided if sufficient time had been allowed. We must recognize the limitations of our machines and not abuse the tubes, but with the use of a fine focus tube and thorough pupil dilatation, one can usually obtain a good image on the average sized patient, with $3\frac{1}{2}$ to $4\frac{1}{4}$-inch spark gap, and from three to five milliamperes. Insufficient current, both voltage and milliamperage, especially the latter, may lead to an unsatisfactory or false conclusion.

Turning now our attention to the interpretation of the findings, let us consider for a moment the deformities of extrinsic origin. Reflex spastic contractions are often seen in the stomach and duodenum, associated with abdominal inflammations such as cholecystitis, appendicitis, pyelitis, acute pelvic infections, etc. These reflex contractions are transitory, and a few moments continuous observation will reveal the fact that they are changeable and leave no constant or permanent deformity. Pressure from neighboring organs, such as the liver, gall-bladder, pancreas (especially in cases of tumors of these organs), the gas filled colon, the gravid uterus, etc., while often difficult can usually be excluded by manipulation, and by causing the patient to assume various oblique positions. In these cases we find one of the greatest advantages of the fluoroscopic method.

Perigastric adhesions may be the origin of considerable difficulty. They may be the source of irregularities of both stomach and duodenum, resembling ulcer. Differentiation can frequently be made by careful observation of the course of the duodenum, whether there be sharp angulations and whether complete filling may be effected at intervals, or whether the deformity is constant and permanent. These latter manifestations will vary according to whether or not the adhesion is under tension or is attached to some fixed point. Cases have been encountered where dense masses of adhesions failed to produce demonstrable deformities; on the other hand, I have seen cases in which it was very difficult to differentiate where the operative findings gave little evidence of adhesions.

The broad, thick individual, presenting the steer horn type of stomach, where the duodenal bulb so frequently turns abruptly backward and to the left behind the antrum, is a difficult patient to examine. Such a patient presents several problems at once—thickness of body, obliquity of organ, inaccessibility of duodenum, spastic contractions, and often marked abdominal tenderness, with consequent muscle rigidity, preventing free manipulation. It is a significant fact that such a large percentage of gall-bladder disturbances occur in this type of individual, and in these our services are so urgently demanded for differential diagnosis. Here again we find comfort in the use of the fluoroscope, with the patient standing, where practicable, for we can turn him from side to side, obliquely and posteriorly, and by vigorous manipulation usually satisfy ourselves as to the integrity of the stomach and duodenum.

I would not forget to mention that class of cases in which ulceration involves only the mucosa and submucosa, which is not demonstrable by any external method, even the surgeon failing to locate it, except he open the organ and make careful search by direct inspection of the mucous surface.

The types of deformity are many, and need only be mentioned. Our opinions are established by finding the deformity itself, and not any particular type, except, of course, those which are distinctively characteristic of ulcer and are not easily confused with other lesions. The niche, the pocket, the cauliflower-like perforation, the induration and the meniscus, are all types which have been described, and all of which I have seen, except the meniscus.

Differentiation from carcinoma must be made in cases of large, indurated ulcers. This is usually determined by the fact that ulcer is smooth in contour, while carcinoma, as a rule, has irregular margins, interrupts peristalsis, and has a tendency to encroach upon the lumen. Carcinoma is usually larger than ulcer, and frequently can be identified by palpating the deforming mass. Of course, it must be remembered that frequently this differentiation cannot be made, and it should not be expected of the roentgenologist in doubtful cases, for often the surgeon and pathologist cannot make it with the gross

specimen, microscopic sections being required before establishing the identity of the lesion.

Errors are made both on the affirmative and negative sides of the question—affirmative when a roentgen diagnosis of ulcer is made where no ulcer exists, and negative when the ulcer is not recognized roentgenologically, but is found at operation. The figures indicate that in our work we make fewer errors of the latter class than of the former; that is, our errors of negation, where ulcer is not recognized but found at operation, are fewer than those of affirmation, where the positive diagnosis is made but not confirmed at operation. There are a few cases, too, which in fairness to the examiner should be classified as indeterminate.

We do not believe that perfection in this work is to be expected, for, as stated in the outset, physicians are just human, and therefore prone to err, but we would hold up the standard as high as we may, for we never attain a higher status than we aspire to. There can be no question that this field offers alluring possibilities for the roentgenologists in the matter of rendering a high type of service to their medical and surgical colleagues, and to the great mass of suffering humanity.

I believe further, that it is our duty as roentgenologists to make this service economical and therefore practical and within reach of all of our friends of the medical profession, upon whom rests the burden of proof of diagnosis, as well as the care and treatment of so many disorders giving symptoms referable to the stomach. We should encourage them to call upon us in cases where they feel they would like help in the matter of elimination, as well as those in which there is strong evidence of organic pathology, and confirmation of the clinical diagnosis only is wanted. It is, therefore, our responsibility and duty as roentgenologists to make careful observations and conservative interpretations of the intricate physiological phenomena of the organs in question, and to use every effort to follow our patients to the operating table, where we can see the sources of our errors and thus learn to avoid them, and where we can confirm our opinions and thus develop our self-confidence.

In a concluding word let me say that it is only by the sympathetic co-operation of our medical and surgical colleagues, with whom and for whom this service is rendered, that we attain the highest proficiency. And it is only by such co-operation that this, the largest diagnostic field in roentgenology, may serve the greatest good to the greatest number.

ABSTRACT OF DISCUSSION.

Dr. Geo. M. Underwood, Dallas: The average physician, perhaps, has a feeling of hopelessness when he is confronted with a patient presenting a gastric syndrome. We as clinicians meet many patients who are of that vague, dyspeptic type, who complain of everything, but in whom we are unable to determine definitely just what the lesion may be. Of course, we realize that the diagnosis of ulcer has been threshed over thoroughly, and even though we do the best we can we will still miss our diagnosis from the history and physical examination alone. We can deal honestly with our patients, to be sure, and pass them along to our good friends and most valuable assistants, the *x*-ray men, and take their findings for what they are worth.

Dr. Alvis E. Greer, Houston: We have been using the *x*-ray for a number of years, in our clinic, for the diagnosis of gastro-intestinal diseases. We have come to the conclusion that the fluoroscope is of greater value than plates. Generally, I think that the roentgenologists are depending too much on the use of plates. More information can be obtained fluoroscopically than by plates alone. It is necessary to take a large number of plates to get the same amount of information. From the trend of this discussion, I am somewhat afraid we may get the idea that peptic ulcer is frequently missed clinically, and that without the use of the *x*-ray we would be completely at sea. Personally, I value very much the evidence the *x*-ray, especially fluoroscopically, gives me in the diagnosis of this condition, but we must not forget the great value of the history of these cases, which is, in my opinion, the most important thing in the diagnosis of peptic ulcer.

Dr. L. W. Kuser, Gainesville: The stomach is an elastic bag which, when empty, lies in the abdomen relaxed. When it is filled, it will stretch. If filled full enough, it will come to some definite, normal outline. If the membrane has an ulcer in it, surrounded by inflammatory tissue, the part which is invaded will refuse to stretch. Thus there will be a deformity, a change in outline. When a stomach is being examined without being stretched, and it is taken in silhouette to see whether something has invaded its walls, one of the great chances to find cancer or ulcer will be missed. In looking for cancer or ulcer, the *x*-ray man is looking to see if that elastic stomach stretches normally in all of its parts.

Dr. Wilson (closing): I would not be understood to undervalue the history of a case, but personally I do not use the history. The roentgenologist should not be the one to make the correlation. The clinician should be the one to do that, and he may interpret my findings in terms of his history. On the other hand, if I do not know the history, my report is not worth much to him unless it is interpreted in terms of pathology.

Diphtheria Antitoxin for the Infant.—In the presence of diphtheria, no age is a contraindication to the administration of antitoxin. The dose for infants of from 10 to 30 pounds and under two years has been given as from 2,000 to 10,000 units. The immunity to diphtheria in young infants seems to depend on antitoxin received from the mother through the placental circulation. This immunity is possessed by more than 90 per cent. of children in the early weeks of life, but at the end of a year this has been lost by about half of them. Serums are well borne by young children, as they have little sensitiveness to foreign proteins. A suitable immunizing dose of diphtheria antitoxin for an infant would be from 200 to 500 units, and the therapeutic dose from 2,000 to 10,000 units.—*Jour. A. M. A.*, January 19, 1924.

THE GRIDIRON VERSUS THE RIGHT RECTUS INCISION FOR REMOVAL OF THE VERMIFORM APPENDIX.*

BY

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HOUSTON, TEXAS.

My connection with a railway hospital for the past twenty-two years has furnished the clinical experience upon which I have based the opinions herewith presented. A careful review of the surgical work done during this period of years shows that appendectomy is the most frequent major operation, leading hernia by a small margin. The appendix is undoubtedly the greatest offender we have, and we find that the number that come for relief are increasing yearly, due in a measure to a better education of the people as to the advisability of an early operation. On this account the number of pus cases have very largely decreased during the past ten years.

During the years of 1921 and 1922, I was personally credited in our hospital with 115 appendectomies. Only three cases out of this number were drained on account of rupture of the appendix. There were but six cases in which there was a malposition of the appendix. One was retroperitoneal, one followed Meckel's diverticulum in the direction of the umbilicus, and in another there seemed to be an absence of the ascending colon, the appendix dangling freely from the cecum beneath the right costal arch. In one case the appendix was given off from a diverticulum of the cecum, which had all the characteristics of the normal gut, including the fibrous bands, and was about one inch in diameter and two inches long. The appendix was a continuation of the diverticulum. In the remaining two cases the appendix was located behind the cecum. In all of these cases the opening was through McBurney's point, with the exception of three. Of these three, one was a retroperitoneal appendix, which was abscessed; another was in a female, where an examination of the genital organs seemed necessary, and the other was an abscess pointing high up. In the first of these a midline incision was made and in the others right rectus incisions.

The same experience, extended over a number of years and based not only upon immediate results, but also upon cases that we have followed up, has led us to believe that the low incision at McBurney's point gives the best results, and it can be used in nearly all cases. The choice of a routine method of making the incision would not seem a matter of great importance, yet my own experience with both methods has convinced me that it is of value both in the matter of comfort during convalescence and the possible avoidance of more serious trouble in the future. In explanation, I will state that in at least ninety per cent of cases the appendix is normally located in the lower right quadrant in close contact with the abdominal wall. The nearest approach, therefore, is an incision made parallel with the fibers of the external oblique and one inch from the anterior-superior spine of the ilium. A division of the fibers of the external oblique at this point exposes the fibers of the internal oblique and transversalis muscles running at right angles to the external oblique. By a separation of these two muscles a sufficient space can be obtained for the easy removal of the appendix, under any ordinary circumstances. In about fifty per cent of the cases the appendix can be removed in this manner with the least possible disturbance or handling of the large or small intestine. This fact alone is of great importance and needs no explanation. In advanced inflammation or with abscess formation, the appendix can be removed and the abscess drained with less danger of infecting the abdominal cavity. In such cases, when the opening is higher up, there is more unavoidable infection. It is true that with a small incision the appendix is not so easy to deliver when bound down by adhesions behind the cecum. In such cases, if more room is desired the opening may be enlarged by cutting through the muscles, or through the fascia, above and below their separation. Abundant room can be obtained in this way, although it is rarely found to be necessary.

It has always seemed to me that a misplaced appendix is easier to locate and remove when search is begun at the cecum instead of a point higher up. This is especially important where there is much inflammatory reaction and where much handling from above would be dangerous. It is true that the cecum itself is sometimes misplaced and difficult to find, no matter where the incision is made. In such a case a larger incision higher up would probably answer best, but is one justified in making such an incision as a routine measure for the very small percentage that might possibly need it? Difficulties will be found, regardless of the kind of incision made, and changes may be necessary according to conditions actually found in the individual case. An abscess pointing higher up would need a high incision, or in the case of a female a change might be necessary for the examination of the uterus or its appendages. I feel that I am more conservative in this than some of

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 9, 1923.

my surgical friends who practically never use the low incision. If it is a matter of habit, I would advise that an effort be made to break it, for the benefit of the patient. I can see the dangers of the high incision as the one of choice. Pus is sometimes found when it is not expected and, therefore, the safest route is the one that is most direct and easiest drained.

However, disregarding the respective merits of the two methods in the immediate effects of the operation, what are the remote results? Two most serious sequelae of large and centrally located incisions are, ventral hernia and intestinal adhesions. These are, of course, more common in drainage cases, *but are not uncommon where there is no drainage.* It is embarrassing to have a patient return for a second operation, and the embarrassment is not relieved when he is told that an operation for his adhesions may not give permanent relief. These adhesions are much more common with a long rectus incision, due to the fact that it is sometimes difficult to get a perfect closure of the peritoneum, and a raw surface is left as a result. I do not now recall a hernia occurring or adhesions forming that required a second operation, where the appendix had been removed through a low incision near the iliac spine. It can be readily seen that adhesions are much less liable to form on account of the small incision and the ease with which the peritoneum can be brought together or overlapped if necessary. Also, the location of the incision being directly over the cecum, which is in itself a more or less fixed point, the adhesions, if any, would be a matter of little consequence. I am aware of the fact that many good surgeons prefer an incision through the rectus muscle, as a matter of routine, and that the opening is made sufficiently large not only to remove *any doubt* about getting the appendix, but also with a view of exploring the entire abdominal cavity. In a great majority of cases these explorations are of no value, other than being able to tell the patient and his friends that his other organs were sound. My argument is that this information is frequently gained at the expense of the patient. I appreciate the fact that frequently a diagnosis cannot be made until we get inside, but certainly these incisions should be reserved for the exceptional and not the routine case. Methods of diagnosis should preclude the necessity of making an incision sufficiently large for the examination of the stomach, liver and gall-bladder. If the necessity for such an examination is urgent, another incision, suitably located, would do less damage and result in a better examination.

I favor the right rectus or midline incision, where the subject is a female, if there are symptoms pointing to diseased adnexa in conjunction with appendiceal symptoms, but in the absence of these, she should be given the benefit of the smaller incision, as it is usually followed by a more comfortable convalescence and is a safeguard against future trouble.

ABSTRACT OF DISCUSSION.

Dr. P. H. Scardino, Houston: I concur with Dr. Knox in the use of the so-called gridiron incision. I remember seeing Dr. Willis Andrews of Chicago, make an incision barely large enough to stick his index finger in and bring out the appendix. Of course, that is very easy in an uncomplicated case. It is my custom to use the gridiron incision in children and comparatively young men, where there are symptoms pointing to an appendiceal abscess, or where there are no symptoms pointing to any gall-bladder infection or constipation or any other like condition. However, where there is referred pain around the gall-bladder, the pyloric end of the stomach or pancreas, I use the right rectus incision, which can be lengthened in either direction to suit the occasion.

In fairly well developed people I do not think it is so very difficult to close the peritoneum in such a manner as to leave no raw surfaces. When we use the old Ectropion (Murphy) method of stitching the two smooth peritoneal surfaces together, instead of the raw edges, we can usually avoid adhesions. Where I suspect an abscess and the disease is in the appendiceal region, regardless of the age of the patient, I invariably use the McBurney incision, because in case of a breakdown, a certain amount of protection is afforded by the overlapping of the muscles and combined scar tissue. On the other hand, the right rectus and the midline incisions in women, and in adult males as well, certainly give the opportunity of examining the other organs, which cannot be done through the McBurney incision. The index finger is rarely long enough to reach from a gridiron incision up to the gall-bladder to explore any pathological condition there. There is really not the space to work in to break down adhesions around the ilio-caecal valve and the caput caecum. However, taking it all in all, I think the gridiron incision gives a stronger abdominal wall than either the right rectus or the midline incision.

Dr. I. C. Chase, Fort Worth: The operation advocated by Dr. Knox was classically described and ably advocated by its author, Dr. McBurney, when he first introduced the incision. It has stood the test of time and been a valuable contribution to surgery. I suppose most surgeons have had experience with it. A large percentage of the cases of appendicitis operated on come in the class known as intercurrent adolescent, as appendicitis is most common in youth. In this class of cases the complications with which we have to deal in long standing and acute conditions do not exist, and the muscle splitting operation is ideal, resulting in a very strong abdominal wall and a short convalescence. On the other hand, I think it most unfortunate for a surgeon to get into a routine habit of opening the abdomen of people of middle age and beyond, with an incision not large enough to afford adequate examination of the gall-bladder and other abdominal organs.

Dr. R. W. Knox (closing): I am sorry that one or two of my friends who are in the habit of using this incision have had to leave town. I expected them here to give my paper a little more weight. If

you are in the habit of using the right rectus incision, you are going to do it under all kinds of circumstances, whether it is indicated or not. If you get into the habit of using the gridiron incision, which is the best way, you will rarely need the other method.

LEFT-SIDED PAIN IN APPENDICITIS.*

BY

T. H. THOMASON, M. D.,
FORT WORTH, TEXAS.

Ever since the sage, Hippocrates, observed and described the malady which we have since come to know as appendicitis, the disciples of Aesculapius, down through the ages, have grappled with the same foe, studied his tactics, fought gamely with him at thousands of death-beds, and finally have all but mastered him. When he advances openly he is easily conquered, but when cloaked in the guise of a less definite symptom complex, he becomes again a most formidable antagonist and stands in the front rank of Osler's "Men of Death."

For many centuries the disease-syndrome of abdominal pain, nausea, vomiting, abscess formation and "deliquum animi," was known as iliac passion. Hippocrates himself is said to have died of it. Gradually men learned its cause. The first description of the vermiform process was made in 1522, by Berengarius Carpus, Professor of Surgery at Pavia and Bologna. Early in the past century it became apparent that iliac and colic passion, later called typhlitis and perityphlitis, were the result of inflammatory disease of this structure. The term appendicitis was first applied by Fitz in 1886. The first deliberate abdominal section for periappendicular suppuration was performed by Hancock in 1848.

During recent years the diagnosis and treatment of this disease has become a matter of common medical knowledge, so that appendicitis when recognized early and treated promptly is no longer a thing of terrors.

It is not the purpose of this discussion to dwell at any length on the diagnosis and treatment of the usual cases of appendicitis. We are all familiar with the typical picture of abdominal pain, at first general, later localized in the right lower quadrant, with nausea, vomiting, slight fever and leucocytosis; and we know that the safest and most conservative therapeutic procedure is immediate removal of the offending member. It is the consideration of certain atypical manifestations that concerns us here—of unusual and paradoxical symptoms which, baffling the physician, render diagnosis uncertain and consume the precious hours so essential to the welfare of the patient.

The presence of left-sided pain in appendicitis was forcibly impressed on my mind by trying experiences with the following two cases, which I attended jointly with Dr. F. C. Beall:

Case No. 1.—Mrs. E., aged 56, was admitted to the hospital on August 9, 1922, complaining of pain in the left lower abdomen, and persistent vomiting. The family history was negative. The past history was essentially negative, except for occasional pain in the left lower quadrant, during the past two years, which was usually relieved by rubbing. The onset of the present illness was sudden, beginning on August 7, with pain in the left lower abdomen, nausea and vomiting. The vomiting persisted, and prior to admission had assumed an intestinal character. With the onset of the pain the patient had a diarrhea, but later her bowels ceased to move and her abdomen became distended.

Examination showed a well developed, moderately well nourished woman, who appeared acutely ill and toxic, with a temperature of 102°. The pulse was 120, and weak. The abdomen was greatly distended, especially in the left lower quadrant. There was marked rigidity and tenderness on the left, but relatively little tenderness or rigidity on the right. The remainder of the physical examination was negative.

The urine showed a marked trace of albumen, hyaline and granular casts, and many white blood cells. The leucocyte count was 22,000. The attending physician had suspected acute intestinal obstruction, but prior to operation it was evident that general peritonitis had set in, with the appendix as the probable etiological factor.

The abdomen was opened shortly after admission. There was much free, turbid fluid, with a colon odor, in the peritoneal cavity. The appendix was found lying transversely across the brim of the pelvis and adherent by its tip to the sigmoid. It was gangrenous and had ruptured. The appendix was removed and tube drains left in the region of the caecum and left pelvis. The patient rallied well after the operation, but succumbed on the eighth day to a general peritonitis.

Case No. 2.—H. N., aged 19, a football player, came into the hospital January 7, 1923, complaining of abdominal pains, diarrhea, nausea and vomiting. The family history was negative. The past history revealed several less severe but similar attacks, the last of which had been over one year before. Otherwise, the patient had always been healthy. The present illness had been of sudden onset, three days before, with "crampy" epigastric pains, nausea and vomiting. Next day the pains had shifted to the lower abdomen in the middle and to the left. Also, on this day the patient began to have frequent bowel movements, small and watery in character.

Examination showed a muscular, heavily built young man who looked acutely ill, with a temperature of 101° F. The pulse was 100, and of good character. The general physical examination was negative. The abdominal findings varied. When seen at two p. m. there was marked tenderness in the left iliac region only. Later, at eight p. m. (just prior to the operation), the abdomen was full and very tender over the entire lower part. The white blood count was 35,000, and the urine showed albumen, many white blood cells and a few red blood cells; there were no casts.

On opening the abdomen, much free, turbid fluid was found in the peritoneal cavity. The appendix

*Read before the North Texas Medical Association, Fort Worth, December 11, 1923. From the Fort Worth Clinic.

was large, long, gangrenous in the distal half, and adherent over the pelvic brim. Signs of pelvic peritonitis were evident. On loosening the appendix, pus with a colon odor escaped from the pelvis.

The patient's post-operative course was a stormy one, complicated by a diffuse pelvic peritonitis and a fulminating inguinal and scrotal cellulitis. But he finally recovered.

These two cases present four main points of interest. First, the presenting symptom in each case was left-sided abdominal pain, and the area of greatest tenderness was in the left lower quadrant. Second, neither case, though seen early by physicians of recognized ability, was brought to operation before the third or fourth day following the onset of symptoms, and even then there was some uncertainty as to the diagnosis. Third, at operation the appendix in each case was displaced definitely to the left. In one case it was adherent to the sigmoid and in the other adherent over the brim of the pelvis. Fourth, owing to delay in diagnosis, incident to the unusual symptomatology, the appendix had ruptured in each case, and severe peritonitis had set in. Both patients were desperately ill, one died and the other, thanks to a hardier constitution, finally battled his way to safety.

A cursory search of the literature reveals little comment upon the incidence of left-sided pain in appendicitis. A thorough investigation might prove much more fruitful. Keen's Surgery mentions its occurrence. Deaver, in his treatise on appendicitis, devotes a few lines to it. A more detailed and extensive consideration of it is found in a work on appendicitis published in 1894, by Geo. R. Fowler of New York. Apparently, it is not very commonly met with.

In considering the causes of left-sided appendiceal pain, it may be well to review briefly certain essentials of the anatomy of that organ. It receives its nerve supply from the superior mesenteric plexus of the sympathetic, which also supplies nerves to practically all the small intestine. Remotely, these nerves arise from the same segments of the spinal cord which give rise to the eleventh and twelfth dorsal and the first and second lumbar nerves.

The position of the caecum and appendix is the main factor in the causation of the pain under consideration. The caecum, though lying normally in the right iliac fossa, may in some instances be displaced to the left by a short meso-colon or persistence of the embryonic position. It is a well known fact that the appendix, which varies from one to nine inches in length, may extend to almost any portion of the abdomen. One investigator, in a series of 83 cadavers, found that in two of them the appendix passed upward along the lateral surface of the descending colon. Another, in 40 cadavers, found one appendix which reached across to the left side, just beneath the linea semilunaris. Elsewhere a case is mentioned in which it crossed both iliac vessels and lay in the left iliac fossa. In the two cases cited above, the tip of the appendix lay definitely to the left of the midline.

The pain of appendicitis usually passes through two phases. It appears first as a general cramping throughout the abdomen. It is caused by distension of the appendix which, by irritation of the superior mesenteric ganglion, excites a referred pain in the area of its distribution, namely, the small intestine. As the distension increases, this pain becomes most intense in the umbilical and epigastric regions, where most of the small intestine lies. The localization of the pain which takes place after a few hours is due to the extension of the inflammatory process to the parietal peritoneum. Its location depends on the location of the appendix, and is usually in the right iliac fossa. With an organ whose tip lies to the left of the midline, as in the cases above cited, the pain and tenderness will be on the left, and pressure over McBurney's point may elicit no discomfort. As a rule, the nearer the inflamed appendix lies to the parietal peritoneum, the sooner will the pain become localized. In both of the above cases the localization was delayed, with disastrous consequences to the patient.

These cases suggest a third factor in the causation of left-sided pain. After rupture of the appendix, especially in pelvic and left-sided displacements, the pus tends to back up in the fold of the peritoneum lateral to the sigmoid and descending colon. Frequently, even in the right-sided abscess, this condition occurs and the wisely exploring finger breaks into a definite pus-pocket on the left. In such cases it is not uncommon to have left-sided pain appearing late in the course of the disease.

In the diagnosis of left-sided appendicitis, in itself paradoxical, several conditions of rather similar symptomatology and more common occurrence must be ruled out. Left-sided pyelitis may be eliminated by the presence of a chill, high fever, and the urinary findings. Acute, left salpingitis, especially in "virgins" who are reluctant to admit exposure, must be considered. A high leucocyte count, above 25,000, is an important differential point. One of our cases was diagnosed intestinal obstruction, in which a leucocyte count in the early stages would have facilitated the recognition of the true state of affairs. Acute diverticulitis, which is

usually in the descending and pelvic colon, presents almost the same picture as left-sided appendicitis and may be differentiated only with difficulty. Inflammation of Meckel's diverticulum, which Dr. J. E. Thompson says cannot be diagnosed with certainty clinically, would bewilder us still further. Recently a case of left ovarian cyst with a twisted pedicle, caused us for a time to consider a left-sided appendix.

Many of us have learned from vivid experience that definitely localized pain and tenderness in the left lower abdomen, does not exclude trouble with the vermiform process; and that while suspecting any of the conditions mentioned above, we should not rest until we have *definitely acquitted or proven guilty* our well known but treacherous friend, *the appendix.*

SUMMARY.

(1) Appendicitis, though readily recognized and easily treated when typical, may in some instances be very difficult of diagnosis.

(2) Two cases are cited in which the presenting symptoms were left-sided abdominal pain and tenderness. Both were desperate cases, because of delayed diagnosis.

(3) Analysis is made of the causes of left-sided appendiceal pain, the main factor being the anatomical position of the appendix and caecum.

(4) Attention is briefly called to the differential diagnosis of conditions causing left-sided abdominal pain.

FASCIA LATA TRANSPLANT FOR THE CURE OF POSTOPERATIVE HERNIA.*

BY

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In presenting this subject, it is my desire to stimulate the profession to avail itself of a method that can often be used where it seems impossible to repair a hernia. From time to time different tissues have been experimented with in the repair of postoperative abdominal herniae—fascia lata from animals; fascia lata from human donors, and chemically preserved fascia from the cadaver. These have all been more or less successful. Fascia with a pedicle, when it can be used in such a way, is very advantageous. But when the herniation is so great that the Mayo overlapping operation is not suitable, it becomes necessary to make a free transplant. There is no better area from which to obtain this than from the outer surface of the thigh. Fascia lata has the advantage of practical indestructibility. Some of us no doubt remember to what numerous uses the late Jno. B. Murphy put fascia lata.

Allen B. Kanavel admirably presents the subject in the "Surgical Clinics of Chicago," November 6, 1916. He reported three cases operated upon with complete recovery, using the free fascia lata transplant. The cases were extrophy of the bladder with double inguinal hernia, complete defect of the abdominal wall, a huge postoperative hernia in a woman 35 years of age, and spina bifida in an infant. He emphasized the importance of the use of the autogenous transplant, and pointed out that where such is not obtainable before making transplants from donors, the compatibility of the tissues must be determined by the use of the blood agglutination test.

Dr. A. O. Singleton of Galvestion,[1] reported having successfully done twelve facia lata transplants. Many other authors have written on this subject. While I have had a very limited experience in this particular method, the results in one case were so happy that I feel justified in reporting it.

R. A., a well built and well nourished young man, 18 years of age, was admitted to the hospital, complaining of a large postoperative abdominal hernia. His history was as follows: He had had the usual diseases of childhood; pneumonia at 11 and again at 13; a hip operation in 1914; influenza in 1918; typhoid in 1919; malaria in 1921, and dengue in 1922. His habits were regular and he was an athletic enthuiast.

About November 11, 1921, while playing football, he was knocked down and fallen upon. When picked up he felt intense pain in the entire abdomen. After a hypodermic of morphine he lay on the field until the end of the game, about one hour. He was then taken to a doctor's home and put to bed. About twelve that night the pain became so intense that he was given another hypodermic injection, which did not relieve the pain. About 1 a. m., the doctor decided the case was one of internal injury and an operation was decided upon. The patient was taken to the hospital in a neighboring town in an ambulance, and was operated upon about 3 a. m. (The patient relates that seven intestinal perforations and a ruptured pus appendix were found. This statement is taken with the proverbial grain of salt.) Perforations were repaired, the appendix removed and the abdomen closed, with drainage. He had a very stormy recovery. At the end of three weeks a pus-pocket was opened, and one week later the edges of the

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 10, 1923.

1. Tex. State Jour. Med., Nov.. 1918.

wound were freshened and restitched, with complete healing seventeen days later. Following this, the patient enjoyed comparatively good health, with the exception of pain in the lower abdomen more or less all the time. His bowels moved with the aid of mineral oil.

On August 7, 1922, he did some boxing at Camp Travis, and shortly after this noticed a swelling in the region of the old incision. This swelling gradually grew larger and finally a complete intestinal obstruction developed. He was operated upon at the Base Hospital, Fort Sam Houston. The obstruction was found to be produced by strangulation of the small intestine through a rent in the omentum. The patient made a good recovery, but suffered stasis pains in the lower abdomen nearly all the time. About 3 a. m., October 12, 1922, he developed severe cramps, but felt better later in the morning and went to work. Soon he began to suffer so intensely that he was sent to a sanitarium. There was some misunderstanding with his physician and I was called in to see him late in the afternoon.

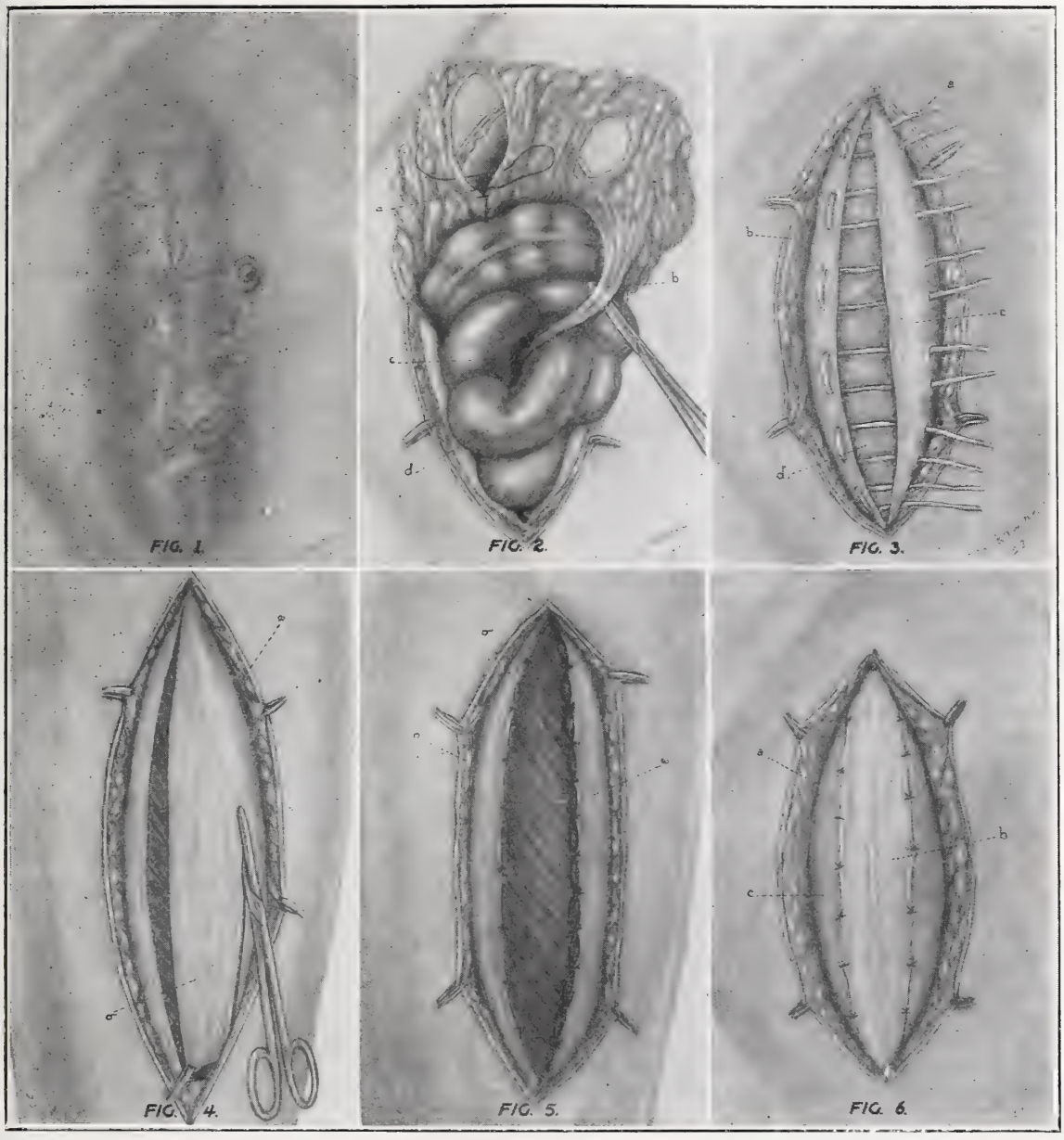

FIG. 1. Postoperative hernia of abdomen.
FIG. 2. Omental rent being sewed, and omental band severed.
FIG. 3. Invagination sutures in place for Mayo Imbrication.
FIG. 4. Fascia lata being incised from thigh.
FIG. 5. Method of repair of thigh, after removal of fascial transplant.
FIG. 6. Fascia lata transplant in place in abdominal incision.

A diagnosis of acute intestinal obstruction was made. Operation followed immediately. Many elongated strings of omentum were found, producing obstruction, by looping around the intestines and passing to the outer border of the small intestines, forming diverticula in many places. There were multiple, fibrous, exudative deposits on the outer surface of the small intestine and free fluid in the peritoneal cavity, indicating an inflammation of long standing. The adhesions were broken down, rents in the omentum repaired and the abdomen closed with some difficulty. An uneventful recovery followed.

The patient remained in good condition, but was instructed to wear an abdominal support, which he did not always do. During the week of January 9 to 16, 1923, he had a severe cold and coughed considerably. This, no doubt, helped to weaken the already thin abdominal wall. On February 11, examination of the abdomen revealed a large postoperative abdominal hernia, extending from about two inches above the symphysis pubis to within a few inches of the ensiform cartilage, and about three inches in breadth.

A plastic operation for the repair of this huge hernia was undertaken. A median incision, slightly longer than the scar, was made and the skin dissected back for about two inches on either side of the incision. The fascia, muscular coat and peritoneum, were in such close relations and the combined structures were so thin that they were cut through directly into the abdominal cavity, with no attempt to separate them. Adhesions of the omentum to the parietal peritoneum were released and many rents in the omentum closed up. One distinct intestinal band, adherent to the terminal ileum and constricting the same, was found and excised. There was also an immense herniation through the upper omentum, and a portion of the omentum was found dipping down between loops of the intestines, to be attached to the mesenteric origin. All these defects were corrected, the omentum repaired and a Mayo imbrication done, employing a kangaroo tendon mattress-suture, with nearly two and a half inches overlapping. The free edge of the flap was sutured down with chromic catgut.

Despite the two thicknesses of the repair, it did not seem to me that the abdominal wall was sufficiently strong to prevent the development of a postoperative hernia. Therefore, it was decided to strengthen the wall by making a free fascia lata transplant. The thigh having been previously prepared, an incision about twelve inches in length was made on its outer border, the skin dissected back and the fascia lata exposed. A piece of fascia two and a half by ten inches, was removed and wrapped in gauze saturated with warm saline solution. As soon as the fascia was removed there was a herniation of the belly of the vastus externus. In order to support this muscle, both edges of the fascia lata were tacked to the tendinous portion of the vastus externus by interrupted, No. 2 chromic suture, which easily held the muscle in place. The skin edges were sutured by an assistant, while the transplant was being sutured over the Mayo abdominal repair, with interrupted chromic sutures, the tissues being placed under slight tension. Careful hemostasis was obtained and the skin closed in the usual way.

The patient was kept at absolute rest in bed for about three weeks. An uncomplicated and uneventful recovery was made. No supporting belt has been permitted, thus insuring active exercise of the transplant. While it is impossible to judge from experience in one case, I believe that the percentage of success in suitable cases would be sufficiently great to warrant us in taking advantage of the operation.

In connection with this operation, the following conclusions, I believe, are justifiable:

(1) Autogenous, free, fascia lata transplants give the best results.

(2) Where for some reason or another, an autogenous transplant cannot be obtained, a donor whose blood agglutination test shows compatibility with that of the recipient, should be chosen.

(3) The transplant should be placed under slight tension.

(4) Complete hemostasis should be obtained.

(5) Proper closure of rent in the fascia of the thigh should be done in order to prevent herniation of the muscle.

(6) No abdominal belt should be worn; active use of the transplanted fascia should be encouraged.

ABSTRACT OF DISCUSSION.

Dr. J. E. Green, Kosse: The repair of ventral hernia has been a subject of interest to me, personally, since 1916. In June of that year, I had a gangrenous appendix, which had to be operated upon almost immediately. It was a pus case, requiring drainage. Where the tube had been placed, the abdominal wall was held together by a weak scar tissue. Under a strain this gave away easily and a hernia resulted. This hernia was repaired in 1917, under a local anesthetic, but the hernia showed up again. From my experience in taking anesthetics, I am persuaded that a general anesthetic should be the one of choice, especially where the intestines are to be handled.

Dr. S. C. Richardson, Eastland: Dr. Scardino used a large gauze sponge covering the whole intestinal tract, while he was placing his peritoneal sutures. He told us what dense adhesions he had to deal with

in this case, and then placed this large sponge over the same surface, inviting fresh adhesions. I believe packs should be done away with as much as possible, and smooth metal spatulae used instead, to hold the intestines while suturing. I have seen great damage done by seizing the intestine with dry sponges, almost making it bleed. If we would avoid sponges, fewer adhesions, less after-pains and less shock would result. If the patient is well relaxed, the intestines are not so hard to control and can be held nicely with a few long, smooth spatulae.

Dr. I. C. Chase, Fort Worth: There is one suggestion about the use of fascial transplants I would make, determined from experience. Unfortunately most of the cases in which we need to use fascial transplants, are fat or beyond middle age. As nutrition of the transplant depends upon serous absorption from surrounding structures, in this class of patients infection or necrosis of the transplant is a common misfortune. To avoid this complication I have found it helpful to put the transplant as deeply as possible, near the peritoneum or under the external oblique fascia. In this position it is more secure from occasional skin infections and a better nutrition is assured. Difficulty in getting proper tension in a buried flap may usually be overcome by tying the tension sutures through the superficial fascia last.

Dr. R. W. Knox, Houston: I have not seen a transplant done on such a large scale as Dr. Scardino has described, but I can well understand how it would be a wonderful relief to a weak abdominal wall. It is certainly a very unique idea, and I congratulate him on the results. It may be a little early to tell what may happen yet in this case, but the idea is a good one. I expect to try it.

Dr. P. H. Scardino (closing): Of course, it is good surgery not to handle the intestines during an operation any more than can be avoided, but there are times when the intestines can be controlled only by covering them with a saline sponge. Dr. Green can be operated on with local, combined local and spinal, or general anesthesia, whichever he prefers. Dr. Chase's suggestion of putting the transplant immediately over the peritoneum and then the muscles over that, is a very good one, but where it isn't suitable to put the transplant over the peritoneum, it can be placed over the fascia, as I did in the case reported, because the skin was so thin and the difficulty of controlling bloody oozing so great. Several little stab wounds were made on either side of the lower pole of the incision, and a small rubber tissue drain was inserted, which was removed in forty-eight hours, the advantage being in the draining of all blood, serum and macerated fat.

Ethanesal.—In 1921, Dr. H. E. G. Boyle of London, read a paper before the Section on Miscellaneous Topics at the annual meeting of the American Medical Association. The paper dealt, in part, with so-called improved ether—"Ethanesal." The paper was not published in *The Journal A. M. A.* on the ground that *The Journal* does not publish articles on new remedies until those products have been reported on favorably by the Council on Pharmacy and Chemistry. The investigation of "Ethanesal" by Dale, Hadfield and King, which makes plain the fallacy of the claims for the product, demonstrates again the advantage to the medical profession of a competent judicial body—the Council on Pharmacy and Chemistry—to investigate new additions to our materia medica.—*Jour. A. M. A.*, Sept. 22, 1923.

INTESTINAL TUBERCULOSIS.*

BY

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My purpose in bringing up this subject at this time is to impress upon those who are not treating tuberculosis the fact that tuberculosis of the intestines is, in a great many instances, the primary lesion of tuberculosis in adults as well as in children. To fail to make a diagnosis in tuberculosis of the intestines until there is a persistent and uncontrollable diarrhea, is as grave a mistake as it is to let a cavity form before making a diagnosis in pulmonary tuberculosis. It is an established fact that five per cent of the cases operated upon for appendicitis are tuberculous. Physicians have been accustomed to look upon tuberculosis of the intestines as a terminal complication of pulmonary tuberculosis. This is not true in a large percentage of cases.

Patients suffering from intestinal tuberculosis will feel hungry, but the sight of food nauseates them. They are able to eat but a small amount before they complain of a fullness in the stomach, they cannot eat any more, and their bowels will move immediately. They complain of rather indefinite pain in the abdomen. Pressure on the abdomen will induce nausea, and some pain will usually be found in the lower quadrant of the abdomen. There may be a diarrhea or constipation at the time. Usually, they complain of a great deal of gas. If there is pulmonary involvement, there may be a higher temperature than usual, and the cough may increase, but examination of the lungs does not show any increased activity. They will lose weight very rapidly. The lung condition may even show some improvement, in patients who are eating well; but if the hemoglobin does not come up above 70 per cent, we should be on our guard, for this is a very constant symptom of tuberculosis of the intestines.

The first point of interest, in the pathology of tuberculous ulceration of the intestines, is the locality of the lesion, and why certain regions should be more often involved than others. One striking feature is the apparent predilection of the disease for those parts of the canal where the solitary lymph glands and follicles are located anatomically. It is as if these collections of lymphoid tissues caught and retained the bacilli, much as the lymphatic glands in other parts of the body do, in their effort to function normally as

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 8, 1923. Author died April 30, 1923. Paper read by Dr. I. S. Kahn, of San Antonio, upon vote of the Section.

guards and filters against the absorption of septic material. When they are inflamed or unduly irritated, they become or produce a suitable pabulum for the nourishment and growth of the bacilli. In as much as this lymphoid tissue occurs most abundantly in the Peyer's patches and in the solitary follicles, it stands to reason that the lower portion of the ileum, the cecum and the appendix, would be the parts where the disease should be most frequently found. Another possible predisposing cause for the selection of these particular regions, is the probable slowing down of the movement of the feces which takes place here, amounting often, in the case of the cecum, to stagnation. Thus it may be conceived that under such circumstances the mucous membrane would be prone to become over-irritated and perhaps inflamed. Adding to this the necessarily prolonged retention of the bacilli, all the conditions most suitable for the fixation and development of these micro-organisms are present. Indeed, it may be said that the grossness and acuteness of any tuberculous lesion is very largely dependent upon the coexistence of other micro-organisms capable of causing necrosis of tissue and active inflammatory changes. There are probably very few tuberculous processes which have reacted to any degree of magnitude that do not, sooner or later, become materially altered by the admixture of pathogenic and, more particularly, pyogenic micro-organisms.

Three types of intestinal tuberculosis are demonstrable by the *x*-ray, to a fair degree of certainty: (1) Generalized abdominal tuberculosis; (2) ulcerative tuberculosis of the colon, and (3) fibrous tuberculosis of the colon. If a barium meal is found six hours after its ingestion, distributed throughout the upper abdominal cavity in irregular segments entering the cecum slowly, we are led to suspect general tuberculosis of the intestines. We should feel quite safe in calling this a generalized abdominal tuberculosis if, as is generally the case, the patient has rigid abdominal walls and a well advanced case of pulmonary tuberculosis. If 18 hours after the barium meal is given, examination shows that the cecum is narrowed at its most dependent part and haustral markings are absent, or shows contracted or spastic areas of the ascending or transverse colon, we may make a tentative diagnosis of ulcerative or fibrous tuberculosis, depending upon the amount of localized tenderness. We then recheck the colon examination with an enema, when, if the same results are obtained and the patient's general condition seems to warrant it, we make an *x*-ray diagnosis of tuberculosis of the cecum or colon of the ulcerative or fibroid type—this, of course, after the possibility of carcinoma and ulcerative colitis have been considered.

In the examination of the stools in this class of cases, the most valuable information we get is of the complicating micro-organisms. If these are constant, they can be used in making an autogenous vaccine. The presence of tubercle bacilli does not, of course, make a diagnosis for us. The presence of occult blood is meaningless, unless we are sure of the patient's diet.

In our institution, there have been over one hundred cases with histories of appendectomies who, before their operations, had given histories of digestive disturbances and diarrhea. The lung symptoms did not develop for some time after the operation. I believe they were primary cases of tuberculous appendix, and that had these cases been given the benefit of laboratory diagnoses after their operations and put under proper treatment, they could have had their resistance built up until they would have been able to overcome the pulmonary involvement. I feel that the surgeon is not doing his full duty by such cases, and hence my plea for a careful laboratory examination of every appendix removed.

CASE REPORTS.

Case No. 1.—Miss D., after a pulmonary tuberculosis of two years standing (her left lung was compressed), developed tuberculosis of the cecum and ileum. We felt that we could give her some relief by a resection, but upon opening the abdomen, found such extensive involvement that we could not resect, so we simply exposed the intestines to the sun for five minutes and closed the abdomen. The patient was then started on sun bath treatments. At the end of ninety days, we felt justified, because of the improvement she had made, in reopening the abdomen. This was done, and the intestines showed great improvement. The operation was repeated in ninety days, and still more improvement was noted. At the end of twelve months this patient was entirely well, and she has remained so for five years.

Case No. 2.—Miss K., suffering from both pulmonary and intestinal tuberculosis, had to have an emergency operation for gall-stones. At the time of operation, we could not resect on account of the extensive involvement, but the intestines were exposed to the sun, the patient put on sun baths and tuberculin, and at the end of a year she was entirely well. She returned to her home in Florida for four years, but again developed gall-stones and returned for another operation. On opening the abdomen, we found the intestinal lesions entirely healed. This patient had a slight return of her pulmonary trouble after the cholecystectomy, but is now entirely well, and we feel that she is going to stay well.

Case No. 3.—Miss H., had tuberculosis of the cecum and the pulmonary findings were negative. Resection of the cecum was done, and as this was a case of primary tuberculous cecum, her recovery has been good up to the present time.[1]

1. In cases Nos. 1, 2 and 3, operation was by Drs. W. L. and C. P. Brown.

Case No. 4.—Mrs. S., suffering from pulmonary tuberculosis, gave a history of chronic appendicitis and a persistent diarrhea, for six months prior to coming to the sanatorium. At operation, we found a large tuberculous appendix, with no involvement in the rest of the bowel. The diarrhea was relieved, the temperature dropped from 103° F. to normal, and the lung condition rapidly improved. This patient is making a rapid recovery.

Case No. 5.—Mr. M., a patient with active pulmonary tuberculosis, gave a history of chronic appendicitis for four months before entering the sanatorium. He had periods of high temperature, but no diarrhea. His appendix was removed but was not found to be tuberculous. However, there were numerous tuberculous ulcers in the small intestines. This patient has improved, and we believe will recover.

Case No. 6.—Miss S., had complained of pain over the appendix for a day or two. A mass developed in her right side, accompanied by a high temperature. Operation revealed a ruptured tuberculous appendix. The other intestines seemed normal; the case drained for two months, when all sinuses had healed. This patient remained well for four years, and then died suddenly of ptomaine poisoning.[2]

Case No. 7.—Mr. H. C., was a sufferer from pulmonary tuberculosis, with a compressed lung. He had manifested symptoms of gastric ulcer for two years, during which time hemorrhages from the stomach had occurred. Pain in this class of cases is not as severe as it is in other forms of ulcer. Autopsy showed a perforated ulcer of the stomach. In all of these cases, the findings were verified by laboratory examinations.

In tuberculous peritonitis, we have found that the fluid disappears and the symptoms promptly abate in a short time, following the use of calcium chloride and sun baths.

TREATMENT.

One of the best methods of combatting tuberculosis of the intestines is diet, which should be of the most nourishing type, and at the same time the least irritating to the intestinal tract. We prefer a full diet and one varied as much as possible, since the patient has no desire for food, as a rule. We think that a free vegetable diet should be encouraged, but the vegetables should be run through a colander to eliminate the tough fibers that would irritate the bowel. Milk should be a regular part of each meal, together with bread and butter. Cereals should be well cooked and strained. Sweets should be given sparingly, on account of the gas which they produce. Eggs are to be given in cases where they do not produce too much gas; some patients will do well on the white of an egg, when they cannot take the whole egg. Mineral oil in most of these cases helps to relieve the irritation, and the patient can sometimes take a full diet in this way.

Lobe found "that calcium salts stopped contact irritability of muscles and hypersensitiveness of the nervous system induced by various salts. It has also been found that calcium salts impede and even stop intestinal peristalsis, and at times even counteract the effect of certain laxative drugs." Ninety per cent of the calcium salts are eliminated by the intestinal canal. Gardner, of Saranac Lake, claims that within twenty minutes after a dose is given in the veins, 70 per cent can be recovered around the tuberculous areas of the body.

When a diarrhea in a tuberculous person is due to dietetic indiscretion, to a catarrhal condition of the intestinal mucous membrane, or to slight intestinal ulceration, an intravenous injection of 5 c.c. of a 5 per cent calcium chloride solution will give prompt relief. In giving calcium, it is important not to let any of it get into the tissues, for it immediately oxidizes and the tissues will slough and cause considerable pain. The bismuth salts and opium, are the next best mediums for the control of diarrhea. The various predigested preparations find an important place in some cases.

The sun-bath is one of our most important methods of treatment. In cold weather we are in the habit of using the lamp, but the sun-bath, given by the Rollier method, is the best. The best results are had in those who take the greatest pigment; the greater the pigment, the better the results. The action seems to be that of increasing the leucocytes.

Tuberculin and mixed vaccines play an important part in the treatment of intestinal tuberculosis.

2. In cases Nos. 4, 5 and 6, operation was by Dr. F. P. Miller.

GIARDIA INTESTINALIS: CLINICAL AND PATHOLOGICAL OBSERVATIONS.*

BY

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Giardia intestinalis is a protozoal organism of the flagellate class, inhabiting the small intestine of man. This fact was first noted by Lambl, an early investigator. According to Dobell and O'Connor, the active flagellates live chiefly in the duodenum, but —analogous with other species—they may be found in fewer number throughout the ileum as far as the ileo-cecal valve. Kofoid and Swezy believe that this parasite may affect the uppermost part of the colon. In their natural surroundings the giardia are not actively motile, passing a considerable part of their existence attached by means of their suckers to the mucous membrane.

Giardiasis is a condition commonly encountered in southern and tropical countries. The increased incidence of these parasites in

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this country, and especially in the Southern States, is evidenced by the recent reports of such careful workers as Kofoid, Reed, Lyon, Simon and Knighton. The diagnosis was made by recovering the flagellates or their cysts in the stools, and in some instances by the appearance of the vegetative organism in fresh duodenal contents. Hemmeter and Smithies have recovered giardia from the gall-bladder bile at operation.

More frequent examinations of the duodenal contents, in the course of gastro-intestinal investigations, will reveal a greater number of flagellate infestations. In some of my cases of giardiasis, the duodenal contents contained innumerable vegetative parasites, whereas repeated examinations of the stools revealed few of the cysts.

The purpose of this paper is to plead for thorough analyses of the duodenum in a greater number of cases, and at the same time to give some of the clinical manifestations and pathological findings that accompany the presence of giardia in the duodenal contents.

REPORT OF CASES.

Case No. 1—Mrs. Z. A. C., a native Louisianian, 26 years old, was first seen on September 9, 1921. She complained of heaviness, bloatedness and sour regurgitations after eating. These symptoms had their onset during her last pregnancy, two months previously, and continued after abortion. She vomited frequently, and there was a loss of 14 pounds in weight. Her appetite was very poor, and her bowels were chronically constipated, requiring laxatives every night. There had been two miscarriages. There was no history of serious illnesses.

Physical examination showed an undernourished individual, weighing 89½ pounds. Her mouth was in poor condition, showing severe oral sepsis with pyorrhea. The chest and abdomen were negative and the urine was normal. Her stool showed a few giardia cysts. Blood and spinal fluid Wassermanns were negative. The gastric analysis showed a subacidity. Microscopic examination of the fasting stomach revealed numerous pus cells. The duodenal contents were greyish white, cloudy and contained many pus cells and numerous vegetative giardia intestinalis. The bile, obtained by drainage with magnesium sulphate intraduodenally, was brownish black and contained numerous pus cells.

The treatment consisted of the removal of six teeth, lavaging the stomach and duodeno-biliary drainages every day for two weeks. This method gave only temporary relief. Two months later, November 18, 1921, the bile was still blackish and contained many pus cells, and giardia intestinalis. Silver salvarsan, 0.1 gm. in 100 c.c. distilled water, was given intraduodenally. The patient did not return for further treatment.

Case No. 2.—Mrs. H. A. L., a housewife, aged 34, a native Louisianian, was first seen on October 12, 1921. There has been indigestion, heaviness and fullness after meals for several years, and severe, sharp pains in the right upper abdomen and under the shoulder blade, for a few weeks. She was nauseated and had vomited at intervals during the previous few days. Her appetite was good, but she was chronically constipated, requiring laxatives regularly. Her past history was negative for diarrhea. An appendectomy had been performed seven months before, with little relief from constipation. She had miscarried twice, and her family physician thought that there was syphilis in her immediate family. The blood Wassermann was negative and there was no clinical evidence of lues.

Physical examination showed a fairly well developed and well nourished woman, with an old, poorly united fracture of the right clavicle. *X*-ray examination was negative. The heart was not enlarged, but there was a systolic murmur at the apex, not transmitted. The blood pressure was 144-80. The lungs and abdomen were negative. The urinalysis was negative. The stools showed giardia cysts, and gastric analysis showed a normal acidity but excessive mucus. In the duodenal contents were numerous vegetative and highly motile giardia intestinalis, and many pus cells. Non-surgical biliary drainage revealed black, thick bile, many pus cells and increased numbers of motile giardia.

After a lapse of two months, while under treatment, the patient developed an acute cholecystitis, with a temperature of 103° F., and a leucocytosis of 15,000. The gall-bladder was removed. It did not contain giardia. Scrapings from the mucosa of the organ showed no flagellates. For a short period, the patient felt well and gained in weight, but on April 22, 1922, the abdominal pain returned. The duodenal contents showed many giardia, and four doses of silver salvarsan, 0.1 gm. each, were administered intraduodenally, over a period of four weeks. The parasites apparently disappeared, but the pain over the liver and slight elevations of temperature continued for several weeks. One year later the duodenal contents showed giardia intestinalis. Neosalvarsan, intraduodenally, in four 0.6 gm. doses, failed to remove the parasites. Duodeno-biliary drainages were continued twice weekly and the patient improved just as much, if not more, as when measures were directed toward killing the giardia. However, I don't believe these flagellates should be allowed to remain in the bowel.

Case No 3.—Mrs. G. T., aged 36, a Mississippian, became sick in May, 1921. She complained of severe pains in the region of the gall-bladder, and heaviness after eating. This patient was operated upon three months later, and the diseased gall-bladder and appendix were removed. Following the operation the patient was relieved of her symptoms for two months, and then the abdominal pain recurred, accompanied by distressing diarrhea. She would have four or five stools in the morning, usually after eating.

Physical examination showed a well developed, well nourished woman. Her skin was flushed and the right lobe of the thyroid was enlarged. Her pulse rate was 96, heart was negative and the blood pressure readings were 134-84. The lungs were negative. Abdominal examination revealed sensitiveness under the right costal arch, near the anterior axillary line. A laparotomy scar could be seen. The urine was normal and gastric analysis showed a well chymified meal and a low acidity. The duodenal contents were examined nine months after the operation, and great numbers of giardia intestinalis were found. An analysis of the pancreatic enzymes showed that the lipase and protease were lower than normal. The stool examination showed an occasional giardia cyst.

Four doses of silver-salvarsan were given, intraduodenally, within one month. The giardia disappeared from the duodenal contents and no cysts could be found in the stools, but the diarrhea continued. Because of the diminished activity of the pancreatic farments, a low protein diet was advised and pancreatic substance was administered. The

diarrhea was then relieved and the patient has remained well up to the present time. There are no giardia in the duodenal contents or in the stools.

Case No. 4.—Mrs. F. R., aged 28, a Roumanian, had been a resident of Louisiana for several years. During the four years prior to February 11, 1922, when I first saw her, she had discomfort after eating. There was sour belching and regurgitation immediately after eating meats, fats and sweets. She had a typical attack of biliary colic in October, 1921, becoming jaundiced and passing clay-colored stools for several days. This attack was followed by soreness in the gall-bladder region, up to the time of the examination.

The examination showed a well developed woman. The chest was negative. There were no organs or masses palpable in the abdomen. The gastric analysis showed a slight sub-acidity, and the urinalysis was negative. Her stools showed giardia cysts. The duodenal contents were bile stained and very thick, containing much mucus. There were great numbers of vegetative giardia intestinalis. The pancreatic enzymes, examined by the McClure method, were normal in their digestive activity. The duodeno-biliary drainages consisted of black bile, thicker than normal and containing many leucocytes. The giardia were increased in numbers after the introduction of the magnesium sulphate solution.

The patient improved under treatment with non-surgical biliary drainages, diet and laxatives. Measures were then directed against the parasites. Four doses of silver-salvarsan, 0.1 gm. each, were administered intraduodenally, as previously described, and the flagellates were eliminated. On March 24, 1922, the patient was free of symptoms, and she has remained in better health up to the present time.

Case No. 5.—Miss R., aged 18, a native of Louisiana, who has traveled in European and tropical countries, was seen in May, 1922. She complained of localized epigastric pains, which had continued for a month. These pains were present about one year previously, but did not last very long. Her appetite was good, but she was chronically constipated, and there was some heaviness after eating sweet or greasy foods.

The physical examination revealed extreme tenderness under the right costal arch. The liver edge was palpable about two fingers breadth below the costal margin, on deep inspiration. Gastric analysis showed a normal acidity, the urine was negative, and the stools showed a few giardia cysts. The duodenal contents showed many giardia intestinalis and leucocytes, and the biliary drainage, dark brown and syrupy, contained increased numbers of vegetative flagellates. A diagnosis of chronic biliary infection and giardiasis was made. A low-fat diet, duodeno-biliary drainage and careful attention to regular bowel elimination, relieved this patient of her abdominal pains.

SUMMARY.

The five adult cases of giardiasis had chronic infections of the biliary tract. Ninety per cent of these infections, as is now recognized, are disseminated through the liver and gall-bladder. Of the above described cases, two were proven by operation, one had biliary colic with jaundice, another had an enlarged liver with sensitiveness over the gall-bladder and a distinctly pathological bile, and the fifth had somewhat less clinical evidence of biliary disease, with reflex gastric symptoms and abnormal bile. The relationship between the flagellates and the bile tract pathology is not a direct one.

The symptoms in this series of cases were relieved by treatment of the infections, primarily. However, removal of the protozoa brings about greater improvement and hastens a more complete recovery. Notwithstanding the fact that these flagellates possess no definite pathogenicity, McNeal, Emerson, Stiles and others, believe that they may predispose to certain diseases or may prolong a pre-existing condition.

The appearance of increased numbers of giardia intestinalis, after the introduction of magnesium sulphate into the duodenum, cannot be interpreted as gall-bladder or liver infestation. The magnesium sulphate liberates the flagellates from the mucosa of the bowel.

Although Lyon states that constipation is unusual in giardiasis, four of my cases were chronically constipated, having never had diarrhea. The fifth case had diarrhea as a result of insufficient pancreatic digestion, following cholecystectomy. These findings prompt one to search for giardia intestinalis, even in the absence of an associated diarrhea.

ABSTRACT OF DISCUSSION.

Dr. Kenneth M. Lynch, Dallas: In the case of giardia, the free active form is not present in the stool except in a coincident diarrhea, whether due to the giardia or not. It is present in the formed stool in the cyst form. It is a small, pear-shaped body, with what looks like two eyes in one end and some fine lines down the center, and may be identified on those points. It, being a flagellate of highly organized character, may possibly be pathogenic, whether or not any of the other flagellates are. Of course, the relationship of the biliary infections in Dr. Silverman's cases, to giardiasis is problematical. It may be that they act as a mechanical carrier of bacteria in case they go up the biliary tract, as Dr. Silverman has indicated they apparently may.

THE FLAGELLATES—A PUBLIC HEALTH PROBLEM.*

BY

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The many papers written since the war on various protozoal infections of the human body have been confusing to the average medical mind. Some writers have observed a few cases, while others have records that will run into the hundreds. Some have laboratories at hand, while others are dependent on the laboratories maintained in the cities or in hospitals.

The average physician has small opportunity to observe large numbers of cases, unless he lives in a heavily infected locality,

*Read before the Section on State Medicine and Public Hygiene, State Medical Association of Texas, Fort Worth, May 9, 1923.

and then the chances are that his work is confined to one or two types of infection. Again, the average worker who examines the feces in a clinical laboratory, has but a general knowledge of the case and there is no "follow-up." So little of the dependable literature on protozoal infections has been published in the accessible journals that a widespread knowledge has not been possible. These things have led to confusion among physicians, the infestation meanwhile continuing to spread.

The public is not so fortunate as it was after Ashford's discovery of the hookworm in Porto Rico, and the subsequent discovery by Stiles of its congener, necator americanus in America, and in the treatment that was subsequently outlined. After these important discoveries hookworms have almost been "educated" out of existence. Following this, came pellagra. A commission was formed; the public was educated to the point where the disease was early recognized, and it too, has all but been conquered by the hand of science.

Not so, the flagellates; they are like the Radical Reds. They are in every locality, silently working, silently spreading, silently but surely crippling, unrecognized, uncombatted, but weakening efficiency and producing both a sociological and an economical loss to the country. They are either pathogenic or their occurrence in a great many people who are ill, is a *most remarkable coincidence.*

The great value that would arise from the study of the flagellates by a commission, has been suggested by several investigators. Such a commission would be compelled to work for a period of several years to thoroughly study the various types, as well as the treatment which is now unsatisfactory. Before presenting the following cases, permit me to say that I have been studying cases of flagellate infection for sixteen years. I practice in a health resort, one fairly well patronized by people from most of the states of the Middle West, especially those touching the Gulf of Mexico and those of the Southwest. A fair number of people come from the Pacific slope, as well as the Atlantic coast. A routine stool examination has been made on all of my patients. The great majority of these were ill, or at least did not feel well, and they had not been reached by the usual treatment. Why else should they inconvenience themselves by coming from a distance for their health? The flagellates have been found in many of these patients who had no apparent trouble; these have been told to go their way.

REPORT OF CASES.

Case No. 1.—L. M. T., a Louisianian, aged 32, was diagnosed chronic parenchymatous nephritis. This patient, a banker, was referred to me in 1908, complaining of headaches, weakness and prostration, and of nausea and flatulence within one hour after eating. He was constipated and his feet and legs were swollen—his abdomen was swollen also, the swelling extending to the lumbar regions. His color was a dark, lemon yellow. The blood was negative for malaria and showed hemoglobin, 60 per cent; no differential count was made. Urinalysis showed a specific gravity of 1,025; albumen, 2 per cent, and sugar, negative. Microscopically, a few hyaline and scattered granular casts, and many pus cells were found. The feces contained myriads of flagellates. The diagnosis was trichomoniasis.

Thymol was prescribed in 5 grain doses, one hour before meals. Daily enemata of quinine hydrochlorate were given. Atoxyl was given hypodermatically every third day. Nux vomica and hydrochloric acid were taken after meals. After six weeks the patient was apparently clear of infection. Six months later, he returned with the same condition as at first, and again cleared up. For six or seven years , he would become ill in June. In 1915, he underwent prolonged treatment, in which ipecac tablets were given intermittently before meals, and nitro-hydrochloric acid after meals. He is normal and healthy at this time.

Case No. 2.—C. E. W., a dentist, aged 35, a Texan, was referred by a prominent consultant. The diagnosis was chronic Bright's disease, and two years previously albumen had been found in the urine when applying for life insurance. He felt weak and nervous, and suffered from insomnia and intestinal discomfort. His feet and legs were swollen and he tired easily. He was constipated, and sore all over the abdomen, with dull aches just below the ribs on either side. His blood-pressure was 90-60. His blood showed hemoglobin, 80 per cent; reds, 4,900,000; whites, 5,600, and the differential count was normal. The urine showed a specific gravity of 1,030; albumen, 1 per cent, and a few hyaline casts, with many pus cells. The feces contained numerous flagellates, lamblia intestinalis. He was treated as outlined in Case No. 1, with no apparent relief, except return of strength. He returned for treatment every six months for four years, and finally was treated continuously for six months. He has had no return of his trouble, and is now well.

Case No. 3.—A man, aged 40, height 68 inches, weight 103 pounds, became ill in 1908, with fever, indigestion, cough and diarrhea. He consulted several physicians and was told he had tuberculosis. He lived in the mountains for six years, with no change, and came home to die. When I examined him I told him that he was tuberculous. He was anemic and undernourished, with pale, watery eyes, and eczema on his face, hands and legs. His blood-pressure was 80-40; his urine negative, and his blood showed hemoglobin, 60 per cent. His lungs showed a widespread, double infection, but all sputum tests were negative. His feces showed a heavy infection of flagellates, identified as lamblia intestinalis. The patient was put on atoxyl, later sodium cacodylate, and, experimentally, neoarsphenamine for the anemia. He gained rapidly in weight and color and was apparently well for six years. He died, in 1920, of influenza.

Case No. 4.—Mrs. F., was married and had two children. For two years previously she had been bothered with heat—prostration in the summer. She became weak and nervous, with almost constant pain over the liver, and sometimes pain under the left ribs. She was fairly well nourished, but reported a

loss of 15 pounds. Her blood-pressure was 110-70. Her stools showed numerous flagellates, identified as trichomonads. The case had been variously diagnosed as chronic appendicitis, duodenal ulcer, cholecystitis, cancer of the liver and tuberculosis of the intestines. She was placed on intermittent treatment as in the above reported cases, and sent home well.

Case No. 5.—Miss E. N., a school teacher, suffered for two years from rheumatism. Her age was 30; weight, 88 pounds; height, 64 inches. She had no temperature and the onset was gradual. She was in great pain and able to move only with help. She complained of nausea, and soreness in the bowels. The blood-pressure was 80-40. Urinalysis showed a specific gravity of 1,026; albumen, negative; sugar, negative; indican, heavy, with much microscopic pus. She was exceedingly weak and nervous, and mental symptoms were present. She was afraid to be alone; afraid to do anything; afraid to go to sleep. Dizziness and tinnitus aurium were almost constantly present. She had pains under the ribs on both sides, and was constipated, but became prostrated when given a purgative. The blood was negative, and the stomach contents were normal. The feces showed many flagellates, identified as lamblia intestinalis. Under the same treatment used in the previous case, she cleared up and returned home in four months. Three years have passed, and the patient remains well.

These cases illustrate some of the various types of flagellate infections, and their proneness to recurrence. They also illustrate the variety of remedies and methods of treatment that may be used. Physicians who have treated the protozoal infections have noted apparent cures from this or that remedy, only to find a recurrence at a later date.

It has been explained that this reinfection comes from the gall-bladder, or appendix, or that the original infection has not been cleared up. However that may be, one is struck with the number of cases of encysted types found when any successful treatment has been instituted. The first law of nature is self-preservation, and no doubt this applies to the flagellates that have the faculty of encysting.

SUMMARY.

The flagellates are common to all sections of the United States.

They may occur in the human family, with or without symptoms of the infestation.

When they do occur and symptoms result, they are very resistant to all known methods of treatment.

There is need for a commission to work out the various types, pathogenic and non-pathogenic, and to evolve not only methods of treatment, but means of prevention as well.

ABSTRACT OF DISCUSSION.

Dr. Kenneth M. Lynch, Dallas: Dr. Eastland has introduced a question which is of importance in both biology and medicine. Whether it is a menace to the public health, as Dr. Eastland believes, is also a question. As he says, the flagellates, dealing with them as a whole, are fairly prevalent throughout the human race, in both the well and the sick. The opinions of the physician and the sanitarian are obliged to conflict, especially since it is uncertain whether these organisms have anything to do with people being sick. They are comparable to the status of the amebas only a short time ago, when if found in a stool, it was considered a matter of importance. There are at least five species of amebae which inhabit the human intestines, and only one is known to be pathogenic, and that one only rarely so.

It is quite probable that a similar situation exists in regard to flagellates. Physicians working with the sick are handicapped in their judgment of the organism because they can not be expected to accurately differentiate flagellates that infest the intestines of man. We know there are at least five varieties, and whether any of them ever enters the tissues of the intestine or causes any damage at all, is usually conjectural. At present, the excretion of toxic substances by flagellates exists only in the imagination. The physician naturally must depend for guidance upon those familiar with the principles involved in the identification of these organisms.

There are a large number of harmless bacteria which inhabit the intestines. In casting about for the cause of an existing disease, if a single bacterium were present in such prominence as a flagellate may be, no doubt we would pick it out as of some significance, as we do the flagellate. The physician cannot deal with them as flagellates, any more than he can deal with bacterial infection simply as bacteria, or amebiasis simply as amebae. He will be obliged to deal with *a specific flagellate*, and not simply with the *broad class of flagellates.* This question will not be solved immediately.

The physician, of course, treats these cases from a very broad standpoint. Numerous remedies have been used in the attempt to eradicate these flagellates, none of which has stood the test of time as being definitely able to eradicate the flagellates from the intestines. What probably happens in many cases, assuming the organisms are not pathogenic, is that the patient gets better under good general medical care, but still has the flagellates. Whether the return of the symptoms is caused by the return of the flagellates is a proposition that I might discuss for quite a length of time, because it has been a hobby of mine for a number of years.

While I may *appear* to be in disagreement with Dr. Eastland, I am not at all. Dr. Eastland is a practitioner of medicine who is doing the best he or anybody else knows to benefit people who come to him, sick. It is up to the physician to say what specific flagellate it is, and then whether his specific treatment has any effect on that one. Whether the flagellates constitute a real public health question or not, will depend upon an accurate knowledge of their pathogenicity.

Dr. J. H. Eastland (closing): The discussion of Dr. Lynch brings out the main point of my paper—that a commission should be appointed by the government to study the flagellates. I have watched cases for years that were infected with flagellates that were supposed to be non-pathogenic. I have tried to make myself believe that the flagellates had no bearing on the case, were a mere coincidence, and that other existing conditions constituted the cause of the symptoms. Long-continued observation has made it exceedingly doubtful that any of the flagellates continuously present in the intestines are non-pathogenic. In other words, any of the flagellates at some time may give rise to pathology, either directly or indirectly.

I know of no specific treatment, yet the majority of the cases may be cleared up, provided the physician is tenacious of purpose and the patient gives intelligent co-operation.

The government should appoint a commission to solve this proposition as a safeguard to the health of the country.

THE LAXATIVE HABIT AS AN ETIOLOGICAL FACTOR IN CHRONIC INVALIDISM.*

BY

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"Constipation" is one of the most common complaints we meet with. We are too prone to accept the patient's simple statement that he is constipated. It is much easier to do this than to go carefully into the analysis of his symptoms, supplemented by examination of feces and other necessary investigations, to determine whether constipation actually exists; or whether the patient has adapted this idea to explain certain subjective ill feelings, which he seeks to correct by household laxatives, or the many blatantly advertised constipation-cures.

The patient when asked why he thinks he is "constipated" will probably say that his bowels won't move, or the movements are too small, unless aided by a laxative, and yet, he is not able to tell how large a normal daily movement should be. On closer inquiry, it is found that he has not been giving his bowels a chance to functionate normally. Ask him to describe his stool, and he will say that it is mushy part of the time, or small and flat, or pencil-shaped, or in small, hard balls. More or less mucus may be observed and, perhaps at times, a stool of pure mucus, especially after a dose of salts or oil.

There is an increasing tendency to constipation. In the hurry and bustle, the call of nature is neglected until the sensibility of the colon to normal stimuli is dulled, and the rectum becomes a reservoir for drying fecal material. Sedentary occupations and the millions of automobiles, are responsible for flabby muscles and lazy bowels. The staple foods of today are so refined that with the quality and quantity of food ingested the residuum is insufficient to produce normal stimuli for a daily, bulky bowel movement. Add to this the habit of suppressing the desire for, or delaying the act of defecation, especially in women, and habitual constipation is the result.

There is a natural, underlying tendency to constipation in hypothyroidism and hypopituitarism. Certain diseases of the heart and liver produce portal engorgement, thereby leading to subdued peristalsis. Acute febrile diseases and diabetes mellitus, dehydrate the system and, as a consequence, there is overabsorption of moisture from the fecal residue and retarded peristalsis. Tumors of the gastro-intestinal tract or adjacent organs may produce stasis or partial obstruction. The origin of the trouble may be chronic appendicitis, cholecystitis, diverticulitis, ileal regurgitation, flagellate infection, hemorrhoids, etc. It should be understood, however, that the constipation associated with most of these conditions is not so much an actual constipation, as it is a loss of appetite, with reduced food and liquid intake and a consequent reduction in the volume and consistency of the fecal residue.

In the neuropath, conditions are ideal for the development of just such a situation. An unstable nervous system breaks down readily under the strain of working; the appetite becomes dulled, the food intake is reduced, and a mild anemia develops, along with a state of subnutrition. There are hypersensitive zones in the sigmoid, descending colon, splenic flexure, transverse colon, or at times the entire colon and, rarely, the small intestine, that may be compared to the so-called "neuritic points" in the spine, joints and other bony prominences of this type of individual. Visceroptosis adds to the difficulties to be overcome, and periodic spells of migraine suggest to the patient that he is absorbing poison from his intestines, due to constipation. In fact, the medical profession has permitted superstition and tradition to dominate the people so long in the field of the healing art, that laxatives and "constipation cures" are taken as remedies for everything from a sour disposition to tuberculosis and cancer.

As negligent as doctors are, however, I am convinced that no agency is responsible for this unfortunate state of affairs quite so much as the advertisements in the secular papers. One finds there marvelous constipation cures, that purport to eliminate every subjective symptom from a bad breath to appendiceal colic. The public are deceived; they are told that if they go to their doctor, he will prescribe the same thing, or something much more drastic. In ten issues of two daily papers selected at random from January 9, 1923, to January 23, 1923, there were 21 different constipation-cures advertised a total of 63 times. In seventeen consecutive issues of one paper, from February 23, 1923, to March 10, 1923, there were 23 remedies advertised a total of 117 times. In the first list there were four not observed in the second, and six in the second not in the

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 10, 1923.

first, seventeen being common to both lists. In the 27 issues there were 27 different cures advertised a total of 180 times, or an average of $6\frac{2}{3}$ days for each advertisement and, also, $6\frac{2}{3}$ advertisements for each day. No constipation-cures were advertised in the three Saturday issues of the second series for the reason, I suppose, that most people are too busy on that day to take a laxative. Allowing for this, there was an average of $7\frac{2}{3}$ advertisements in each of the remaining 24 issues.

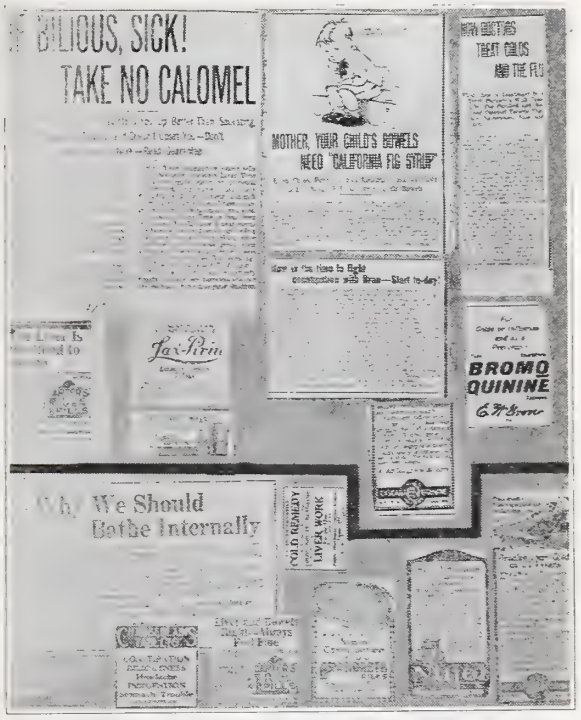

FIG. 1. Constipation advertisements taken from two issues of one paper.

These advertisements are made as attractive and convincing as possible, and one advertiser, in big headlines, asserts that "50 per cent of all diseases start from constipation."

Thus it is easy to see why laxatives and cathartics are responsible for not less than 85 per cent of our so-called constipation, and how it is that they form a habit just as pernicious as the morphine habit, except from a moral standpoint. The bowel becomes insensitive to the normal stimuli afforded it, or the patient seeks to remove some irritation which he believes is in the bowel, and a laxative is resorted to as a temporary measure. This empties the bowel, but before nature can again fill the colon and induce a bowel movement (normally 48 to 72 hours), the individual becomes anxious and again takes a laxative. The process is repeated week in and week out, and soon the entire colon is irritated and in a state of constant hyperperistalsis, with the pre-existing hypersensitive zones aggravated, and spasmodic contractures induced or made worse. Large amounts of mucus are thrown out as a protecting and lubricating mechanism. This hyperactivity and irritability is noticed as a rumbling and rolling, and what the patient terms "gas" on the bowels. He takes more laxatives and gets temporary relief, but in the long run only aggravates his trouble. There is difficulty in the passage of the fecal residuum, due to retardation by spasm, and additional laxatives are necessary to overcome this.

The stomach and small intestine become hyperactive and food enters the colon in from three to four hours after ingestion. Recently, I saw a woman 52 years of age in whom the ileum was empty and the rectum filled in $6\frac{1}{2}$ hours. This material is only partly digested, and contains intestinal juices, so that the process of digestion and absorption must be completed in the colon. This is not natural, and a catarrhal condition develops, due to irritation of these juices, plus putrefaction and fermentation of undigested food remnants, that serve only to aggravate the developing colitis. Naturally, the patient becomes anxious and worried when everything he does seems to make him worse. He is too eager to get a bowel movement every day, and will resort to any measure to accomplish it. He becomes morbid on the subject and finds himself a nervous wreck, trying to attend to the intricate and minute autonomic functioning of his gastro-intestinal tract. He is afraid of "auto-intoxication" and "biliousness," than which no terms in the modern medical vocabulary cover more sins. These are terms which the doctors too frequently use to cover their own ignorance, in allowing the daily laxative for the prevention of these two mythical diseases. Years ago, it was demonstrated that healthy intestinal mucosa is impervious to toxic substances contained in the normal fecal residue, just as the normal gastric mucosa will not digest itself. In his efforts to overcome a mentally exaggerated constipation and mythical auto-intoxication the patient resorts to measures such as cathartics and mechanical irritants (especially bran), which only serve to break down the natural resistance of the intestinal mucosa, establish toxic absorption, and aggravate the very thing he seeks to remove.

The symptoms of which these patients complain are too numerous for discussion. Many times the doctor is guilty of ascribing them to neurasthenia. The truth is that many neurotic patients would get well if all laxatives were taken away and they assured that their bowels could function without any

thought on their part. There is a feeling of distension, pressure, or gas associated with passing of flatus, belching, rumbling and rolling in the abdomen. The patient frequently describes this feeling as something crawling in the belly. Pain is a symptom constantly present but not necessarily severe or limited to the abdominal region. There may be a diffuse, griping or colicky pain located in the epigastrium, hepatic flexure, splenic flexure, cecum or sigmoid. Frequently, there is such pain and soreness in these regions as to lead to the diagnosis of appendicitis, cholecystitis, or ulcer. Severe attacks of fecal or mucous colic occur, requiring opiates or atropine for relief. Gastric symptoms, so often noted, are, loss of appetite, fullness after meals, mild nausea, belching, pyrosis, coated tongue and bad breath. It is just such symptoms that lead to the diagnosis of "biliousness," and the prescribing of more calomel or more frequent laxative. The left hypochondrium is the most common location of pain, which may be referred downward toward the pelvis, or into the lumbar region, resembling a renal pain, or up under the left scapula, where the patient describes a spot of tenderness, leading often to the erroneous diagnosis of intercostal neuritis. Pain in the precordium and behind the sternum, adds to the patient's anxieties the fear that he has a "bad heart." If he is not already nervous, he becomes so and complains of vertigo, fullness in the head, headache and insomnia. He worries about himself and becomes introspective and despondent. There may be alternate periods of constipation and diarrhea, especially when there is actual fecal stasis and in cases of flagellate infection. Stercoral impactions in the cecum, sigmoid or rectum are almost as frequent in the spastic as in the atonic cases, and while laxatives give temporary relief, they only aggravate the cause. Fever of a low grade, due to a cathartic colitis, is often noticed.

The diagnosis depends on a careful study of the case. There is usually some predisposing factor leading to the use of frequent laxatives over a period of from a few months to a lifetime. Nervous, highstrung individuals who lead sedentary lives find in the daily newspapers the rose-path of the "cure-all" for their constipation. Recurring "sick headache" is a frequent cause, since both the patient and doctor often insist that calomel followed by salts will give relief; but I have my first case yet to see, in which the migraine was cut short by a purge. There is a common belief that mineral water is a harmless laxative. Recently, one of my patients stated that she had taken four ounces of Pluto Water every morning for 15 years, or a little more than five and one-half barrels. Another had taken a laxative of some kind every day for seven years, running the gamut from yeast and bran to Calotabs and "C. C. Pills," finally resorting to colonic flushings of one gallon each twice daily.

Physical examination in these cases reveals a diffuse tenderness of the abdomen, and along the colon, especially at both flexures,

FIG. 2. This group illustrates the unlimited promises of relief for the sufferer who takes constipa ion remedies and shows the variety and character of display advertisements with an appeal to the chronic invalid.

the cecum and sigmoid. Digital palpation of the rectum gives evidence of a rigid, spastic sphincter. The rectum is usually empty and contracted, but may be filled with hard, dry, fecal balls. The stools vary in shape and consistency, with ordinarily, considerable mucus and a putrid, offensive odor. A simple test for irritable bowel is the use of 1/50 to 1/100 grain of atropine sulphate, which will relieve the distress and frequently the constipation also. This may be administered hypodermatically or by mouth.

X-ray observations of an opaque meal reveal hypermotility in the stomach and small intestines, with usually a decreased

emptying-time—food frequently having reached the cecum in three hours or less. There is usually a hurried emptying of the entire colon, and I have seen the entire gastro-intestinal tract empty itself in less than 24 hours. Frequently, there is a normal emptying-time, but often the time is increased to from 96 to 120 hours. There is always marked spasm of the gut, with deep, narrow haustrations, or disappearance of the haustral markings, and in the distal colon fecal balls may become impacted behind a tight rectal sphincter. After the bulk of the barium has passed into the rectum, enough of it may become finely mixed with the mucus clinging to the walls of the colon, to cast a shadow. This always means a spastic colitis.

The treatment is simple, but requires close attention to detail by both physician and patient. The colitis must be cured along with the constipation. Diet should at first be bland, consisting chiefly of cereals, tender vegetables, purees, fruit juices, eggs, breads and lean meats in moderation. As the irritation and symptoms subside, more freedom is allowed in food selections, the more bulky but tender vegetables and fruits being preferred. Rough and over-stimulating foods should be rigidly excluded until the irritated condition has entirely subsided, such as bran, whole wheat bread, shredded wheat, raspberries, blackberries and other such seedy fruits, cabbage, brussel sprouts, sauerkraut and the like. Foods rich in protein should likewise be allowed only sparingly, for two or three months.

Regulation of the habits is essential. The proper time for defecation is from 15 to 20 minutes after arising each morning, because peristalsis is then resumed. The habit of sitting at stool and reading is pernicious in its influence and must be advised against. Regular habits in eating and sleeping, and the taking of outdoor exercise, such as walking, golf, tennis, or working in the garden, are essential. Plenty of fluids must be ingested, and not less than half a pint of water taken with or immediately after each meal. A glass of hot water before breakfast is beneficial in spastic cases, but after the cathartic irritation has subsided, cold water should be substituted. Massage is of value in certain cases, and calesthenics, especially those exercises combining abdominal and breathing movements, are to be recommended. Electricity and violet rays are of doubtful value. Hydrotherapy in the form of a needle spray of alternating hot and cold water, is earnestly recommended as a tonic measure.

The patient's mental attitude must be adjusted, and he should be assured that there is no danger if his bowels don't move for a week. Worry aggravates his trouble, and quiet rest in bed are essential at the outset, especially in migraine cases and in neurotic individuals. The abdominal discomfort can be controlled with an electric pad or hot water bottle, and administration of some antispasmodic such as belladonna, atropine, valerian or benzyl benzoate. For temporary relief, enemata of olive oil or liquid petrolatum, two or three times a week, may be used. These all preferably given warm, in amounts of from four to six ounces at bed time, and retained over night. If there is no bowel movement the following morning, one-half to one pint of warm water may be administered as an enema, but copious flushings of the bowel should be prohibited. In certain cases of mucous colitis, and in severe catarrhal cases, it may be advisable to use daily irrigations of argyrol, 4 grams to 1,500 c.c., or half a dram of icthyol may be added to the oil retention enemas at night.

The underlying cause should certainly be removed, whether it be a fissure, hemorrhoids, pelvic pathology, or what not. If there is a hypothyroid or hypopituitary condition, the thyroid or pituitary substances should be given by the mouth, or hypodermatically. Often, complete divulsion of a rigid sphincter ani removes the only barrier to prompt, complete relief.

The use of a laxative in any guise whatever is interdicted. Many advise small or occasional doses of cascara, rhubarb, mineral waters, phenophthalein-agar, and the like, but it is my judgment that these only add fuel to the fire. In one text 35 different prescriptions were found, covering the field from calomel to mild mineral waters. Liquid petrolatum by mouth is allowable, but is best used per rectum. Wheat bran has become a very popular remedy, but it is a mechanical irritant and, if used too freely, produces a bowel irritability, which may lead to colitis, fissure, fistula or abscess. Aside from its irritating effects, a purgative in constipation due to spasm, partial obstruction, appendicitis, paralytic ileus, etc., is mechanically wrong and may be likened to cleaning a gun barrel: it is easy to *drag* the rag through, but to attempt to *push* it through often results in wedging it in more tightly. Why assault thirty-one feet of bowel just to empty the rectum or colon?

What is to be done with "intestinal toxemia," "autointoxication," "biliousness," etc.? In habitual constipation where laxatives are used regularly, such symptoms usually subside when the patient is placed on

proper management, without laxatives. It is preposterous to suppose that simple evacuation of the bowels by a purgative will rid the entire system of toxemia, although such "cures" are heralded daily, and patients often get relief as soon as they see a copious bowel evacuation—a very interesting lesson in suggestive therapeutics!

Careful inspection of the mouth may reveal infected tonsils, pyorrhea or alveolar abscess. Frequently, I am called to see some child or grown-up and told that they are "constipated" or "bilious," and all they need is a "cleaning out," only to find on examination a frank case of pharyngitis or tonsillitis. The promiscuous, ill-advised use of cathartics in the treatment of respiratory infections has no common sense basis, and only decreases the patient's resistance for fighting the infection.[1] I disagree with the theory that bowel absorption is responsible for such ailments as epilepsy and arthritis. No proof has been submitted that absorption from the bowel enters into their etiology. The sins that have been committed on the colon by certain surgeons and gastro-enterologists, claiming to cure such conditions by surgery or continued use of laxatives, is a blot on the good name of the medical profession that only time can erase. A vigorous educational campaign is needed, not only among the laity, but also in the medical profession.

The bowel is a very sensitive apparatus, controlled by the autonomic nervous system and not by any volition on our part, although it is greatly influenced by the habits of the individual. This delicate mechanism will stand much abuse, but revolts at insult. When the medical profession learns that there is no greater insult to the normal operation of the bowels than the laxative habit, there will be less neurasthenia and fewer gastro-intestinal invalids.

ABSTRACT OF DISCUSSION.

Dr. Gilbert E. Brereton, Dallas: Such cases as those referred to by Dr. Horn are seen frequently, and are often not associated with any organic lesion. Dr. Horn has covered the matter fully. I desire to refer to a series of cases purely functional, and yet just as discomforting as any other cases. I have recently compiled the data on a series of 223 such cases, taken from 500 consecutive cases in private practice. Of the 500, 125 exhibited the definite symptomatology described by Dr. Horn. The series of 223 cases may be divided into three groups, namely, (1) 114 cases in which a history of constipation and catharsis was found incidentally, and in these cases there was no other trouble found; (2) 68 in which there was a definite laxative habit as a secondary diagnosis, and (3) 41 cases in which the constipation and laxative habit constituted the primary diagnosis. Many factors entered into the development of the laxative habit. Many of these patients started the habitual use of laxatives following operation, but perhaps the great majority resulted from prescriptions given and lost sight of by the physician, or from self-medication.

The case histories in hospitals during the World War presented this problem on a basis never before possible. There were many cases of constipation markedly improved if not cured, by the regularity of habits, enforced exercise and coarse diet. There are four definite points in the consideration of this problem: (1) It is necessary to make a definite diagnosis in each case, and the constipation symptoms should be carefully analyzed in each of them; (2) the patient should be given detailed explanations and directions, in order that he may intelligently co-operate in the management of his case; (3) prescriptions calling for laxatives and cathartics should be kept under the control of a physician, and should not be allowed to continue indefinitely, and (4) the condition is frequent and should be constantly looked for.

1. Since this article was written, Dr. Hugh McDonald of Evanston, Illinois, has given some very interesting figures, showing the ill effects of cathartics in the treatment of "colds." Jour. A. M. A., Vol. lxxx, p. 1375, May 12, 1923.

EPIDERMOPHYTON AND TRICOPHYTON INFECTIONS OF THE SKIN.*

BY

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While the term "Epidermophytosis," correctly used, would cover a number of fungus diseases of the skin, including eczema marginatum, tinea capitis, tinea circinata, tinea versicolor, tinea imbricata, erythrasma, pinta and others, it is usually applied to infections of the hands, feet and crotch due to epidermophyton inguinale and allied fungi. Only those commonly seen will be considered in this paper. Clinically, these may be divided into three types: (1) Affections of the scalp due to trichophyton; (2) affections of the glabrous skin, due either to trichophyton or epidermophyton, and (3) affections of crotch, hands and feet, due either to trichophyton or epidermophyton. It is our purpose to discuss in a practical way, and bring to the general attention of medical men, the differential points of diagnosis and treatment of epidermophytosis, especially of hands and feet, and the proper treatment of trichophytosis (scalp and beard).

Ringworm of the scalp was probably first mentioned by Celsus, about 25 A. D., in the sixth book of his "de Medicina," in which it is called "porrigo." The word "tinea" was used in the sixth century by Bishop Fortunatus in a description of a scalp disease. According to Castellani and Chalmers[1] the Anglo-Saxons applied the word "tetter" to any kind of skin disease that itched, and in

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Fort Worth, May 10, 1923.

1. Castellani and Chalmers: "Manual of Trop. Med.," 1919, p. 2052.

this form it was used in the Middle Ages; then, with the advent of printing, ringworm was called "tetters" in England. In or before the sixteenth century, "ringworm" had appeared for the disease now known as "tinea circinata." In 1839, Schonlein first recognized the fungoid character of favus, and the fungus was later named by Remak, "*achorion schonleini.*" This discovery was quickly followed by similar discoveries, such as that of Gruby, in 1843, in a case of ringworm; of Tilbury Fox[3] attributed certain eczemas of the palms to ringworm.

Since that time, various fungi causative of ringworm have been isolated, named and classified, but it was in 1910 that Sabouraud published his classification of ringworm fungi, and a correct working basis was established. These organisms are inclined to become pleomorphic on different media, so Sabouraud advised a standard medium for their cultivation. His work deals primarily

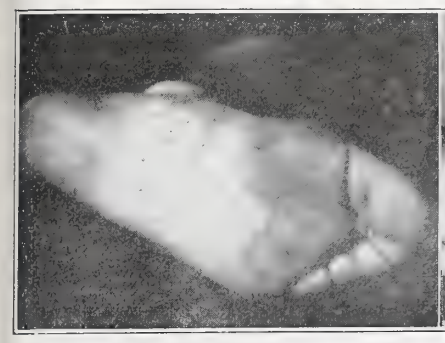

FIG. 1. Vesicles in early epidermophytosis.

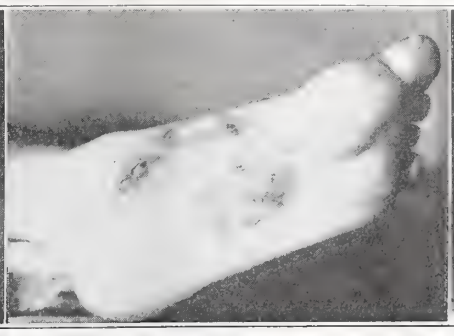

FIG. 2. Superficial and deep vesicles on site of election of epidermophytosis.

FIG. 3. Typical maceration in a usual site of epidermophytosis.

Gunsberg, in 1843, in a case of plica; of Gruby in sycosis, in 1842, and named "tinea tonsurans;" of Lebert in ulcers of the leg, in 1845, and of others. The two fungi, "achorion schonleini" and "tinea tonsurans," were considered by Kaposi to have a definite pathogenic basis, but at that time investigators, in searching for specific causes of disease, confounded the pathogenic fungi with ordinary molds. Hallier[2] thought for years that the with the fungi causing ringworm of the scalp, but many of these are known to affect the skin on other parts. Castellani has isolated three organisms belonging to the genus epidermophyton and one of trichophyton, as causative of "eczema marginatum." The fungi belong to a class of vegetable parasites, in which are placed the genera trichophyton, microsporum, epidermophyton, penicillium, aspergillus, sporotrichum, saccharomyces,

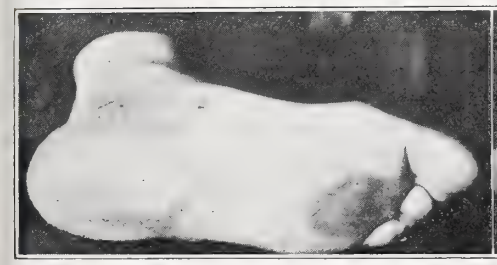

FIG. 4. Orange-yellow callous, with fungus.

FIG. 5. A common picture of epidermophytosis.

FIG. 6. A nail infection often seen with epidermophytosis.

achorion schonleini and tinea tonsurans, were simply pleomorphic forms of the aspergillus (common mold), and that it, in turn, was derived from lower organisms which we now place among the bacteria. In 1869, Hebra described "eczema marginatum" (tinea cruris, dhobie itch), and soon after, its mycotic nature was demonstrated. Hebra then mentioned that the disease occurred on other parts of the body than the crotch, and cryptococcus, coccidioides, monilia, etc. The first three are the most common causes of ringworm. However, a penicillium has been isolated from ringworm of the nails,[4] and saccharomyces[5] are known to cause thrush of the skin. We have grown the sporotrichum schencki from repeated cultures of skin from a case of epidermophytosis of the hand and

2. Kaposi, Hebra: "On Dis. of Skin.," 1858, Vol. v, p. 127.

3. Ormsby and Mitchell: "Ringworm of Hands and Feet," Jour. A. M. A., Vol. lxvii, p. 711, 1916.

4. Wiedman, F. D.: Arch. of Dermat. and Syphilis, Vol ii, p. 703, 1920.

5. Sutton: "Diseases of Skin," 1921, p. 1027.

feet. However, the organisms found in eczema marginatum are most often responsible for epidermophytosis of the palms and soles.

EPIDERMOPHYTOSIS.

Epidermophytosis of the hands and feet occurs most commonly in the adult. One case may show only a pruritic exfoliation of the toes and webs, another maceration between the toes, another vesico-pustules, but sooner or later every stage is reached, and in some cases all stages are shown at once. The most frequent sites are the instep, the ball and between the fourth and fifth toes. Indeed, one may harbor the fungus for a long period of time without experiencing any abnormal sensation, except an occasional itching between the fourth and fifth toes, and the only sign being a sodden epidermis with a little outlying scaly periphery. Vesiculation with intense itching is a feature that usually accompanies the acute attacks. Tiny vesicles are seen, discreet or in patches, along the sides of the phalanges. We are of the opinion that the pruritic vesicle is the first stage of the disease. An acute attack may show sodden, macerated, white epidemis, in every web and on the sides of the phalanges, with vesicles scattered on more normal skin, scaling epidermis on the ball and heel, and here and there remains of a ruptured vesicle that has dried, leaving a hanging scale. A deep vesico-pustule may be added to the picture, in some cases.

When the skin in the webs is softened, cracking may ensue, allowing infection with any of the ordinary pus-forming organisms to take place, causing a very painful, localized cellulitis, which may produce enough swelling of the foot and toes to make a shoe unbearable. The acute attacks are remittent, usually come in warm weather, though not necessarily, and after a time may become of less intensity. However, the fungus will remain active in the skin, occasionally causing some characteristic minor disturbance, such as occasional itching, or tenderness. There is a sub-acute variety in which the only evidence is exfoliation in sheets, in irregular lines, or circles, bordering central areas of denuded dermis. The fungus usually has its play on the plantar aspect of the foot, but it does encroach upon the dorsum, either along the instep, over the lateral aspect or (and this is more common on the hand) by extension from a web, upon the dorsum of the proximal phalanx of each toe, forming a single, festooned, rounded lesion, with a periphery containing minute vesicles, the whole lesion being slightly raised, erythematous and topped with tiny scales.

There may be slightly raised patches on the palms and soles, with an irregular border at which are minute vesicles and small scales, and an erythematous center, with punctate excoriations and more or less exfoliation. It is not rare to see the whole palm or sole affected. The picture on the hands is modified somewhat from that seen on the feet, being drier, which is probably due to the fact that the secretions evaporate more readily, and do not mix with the cast-off epidermis to form a suitable culture medium for the fungi. The sites of predilection on the hands are along the phalanges, on the hypothenar eminence and the distal portion of the dorsum just above a web. When on the hypothenar eminence, the lesion may coalesce, with an irregular patch on the volar aspect of the wrist; when on the dorsum of the hand, it is an extension up from the web, and usually

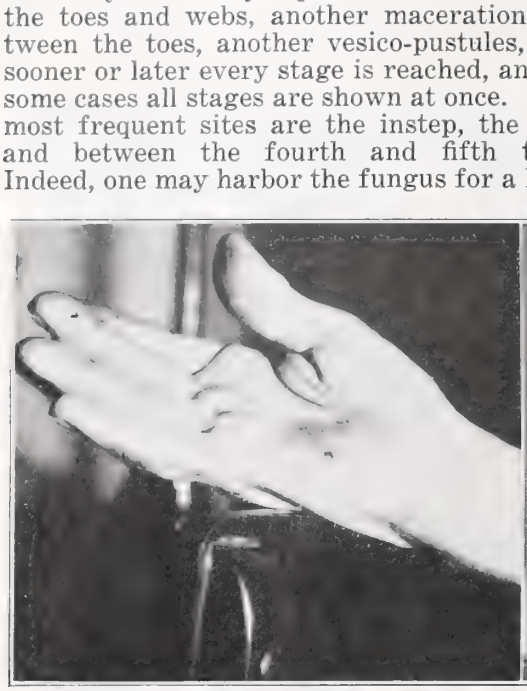

FIG. 7. Involvement of hypothenar eminence, common site of epidermophytosis.

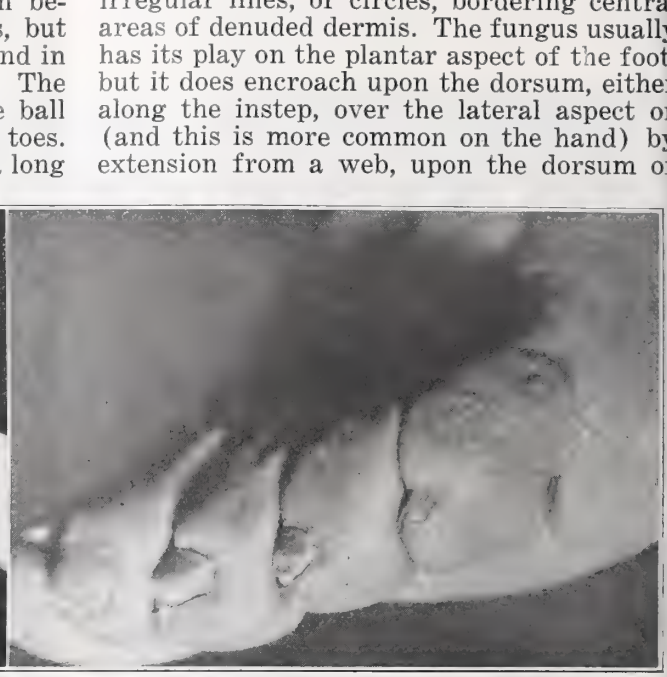

FIG. 8. Recurrent epidermophytosis is often due to fungus infection of the nails.

includes the dorsum of each of the two adjacent phalanges.

It is so frequent to see ringworm of the nails associated with a long-standing case of the disease, that in examining them, one is assured of an added diagnostic aid. A ringworm nail has a yellowish or blackish discoloration, and a rough, lustreless surface. It becomes brittle, and splitting and chipping of the free border occur. We have seen the toenails affected much more frequently than the fingernails. Another manifestation of the work of the fungus, is hyperkeratosis, and while this always accompanies the dis-

FIG. 9. Fungus infection, plus other irritants, can cause an extensive dermatitis.

FIG. 10. Occupational dermatitis in a linotype operator. To be differentiated from luetic scaling.

ease, at times callosities of remarkable thickness are formed, which have a quite characteristic orange-yellow color, are moist, and cut with india-rubber consistency. The most frequent site for them is on and around the border of the heel. Pruritis is a very variable symptom, but is practically always present in some degree. It is common in those types presenting only scaling, and most marked in those in which there is a dermatitis from over-treatment, or a secondary pustular infection, as complicating factors.

When epidermophytosis spreads to other regions, it is usually found about the ankles, either side of the legs, popliteal spaces, wrists (usually volar side, and sometimes taking in the ulnar half), on the face, arms, back, axillary spaces and, at times, in women who have pendulous breasts, the sub-mammary region. In the flexures the picture of eczema marginatum is duplicated. On the other parts, the patches vary in size, averaging that of one's palm, with irregular rounded borders. They may be weeping, studded with vesicles and covered with macerated skin; or dry, erythematous, indurated, somewhat raised and exhibiting small attached scales. Not infrequently these patches are converted into infectious eczematoid dermatitis from constant scratching and poor hygiene, in which event they are covered with large epidermal scales or thick crusts and bathed in serous or seropustular excretions. When the disease has extended to form large areas of such character, the chief complaint of the patient naturally is "eczema" of the legs, arms, etc., and the primary affection on the feet or hands may be entirely overlooked. The British dermatologists term such conditions "eczematoid" ringworm, which is well described by MacLeod.[6] In such an instance, strict inquiry into the history of the disease, or examination of the toes, soles and palms, will aid in making the specific diagnosis of a fungus disease.

The differential diagnosis of the affection occurring solely on the feet, is usually not difficult. On the hands it should be differentiated from mild scabies, dried lesions of impetigo contagiosa, a dermatitis from either external or internal causes, and syphilides. The character of the scaling of psoriasis of the palms might be confusing, but it would very rarely occur solely on the palms.

In scabies, typical burrows are almost invariably found in the webs of fingers and flexures of the wrist, and examination of one of them will usually be rewarded by finding the acarus. The scabetic lesions of an infant's palms resemble those of epidermophytosis, but even in these, the entire picture of the complaint will substantiate the diagnosis of scabies. Also, epidermophytosis is rare on an infant's hands. Although in rare instances scabies remains localized on the hands and upper extremities, the roving instinct of the parasite will usually give rise to lesions elsewhere on the body.

Dried lesions of impetigo on the hands cause exfoliation, resembling those occurring from vesicles and vesico-pustules of epidermophytosis of the palms, but they are only infrequently confusing, as the typical superficial vesicles which very soon change into pustules on an inflamed base, are not long confined to the hands.

A dermatitis caused by external irritants should be thought of when the lesion is uniformly spread out, and especially if on the dorsum of the hand. Occupational dermatoses may produce lesions simulating epidermophytosis. We recently saw a case which was due to turpentine, and showed acute vesicular dermatitis of the phalanges and dorsum of each hand. A toxic eruption rarely occurs solely on the hands. Erythema multiforme on the palms is accompanied by lesions elsewhere. Vesicular patches simulating epidermophytosis sometimes are due to toxic substances ingested. Recently a case presenting only lesions of the hands, simulat-

6. MacLeod: "Diseases of Skin," 1919, p. 396.

ing ringworm, was found to be caused by hyperglycemia. A case of pompholyx on the back of the hand was found to be due to sensitization to lettuce.

Syphilides of the palm are divided into early and late lesions. The early lesion is more inflamed, is generally accompanied by the secondary eruption, and is not so apt to be overlooked. The late syphilide may be circinate or diffuse, and usually occurs on only one palm (or sole). Points of distinction[7] between ringworm and syphilis of the palms are, in the former the circle is more apt to be complete, the border is red and inflammatory, and tiny vesicles may be observed at the periphery of the lesion. There is a dry, flaky scaling in syphilides that is characteristic. The syphilide prefers the center of the palm, and its borders are sharply defined. When scaling of the palms and soles occurs in epidermophytosis, there are also found concomitant lesions of fingers, toes or webs, as described above. An absolute diagnosis of epidermophytosis is made by microscopic examination of the epidermal scale or tissue (preferably the top of a vesicle), and this should always be done. The specimen is put on a slide in a few drops of a 20 per cent sodium hydrate solution, and examined at periods varying from fifteen minutes to several hours, or until the epidermal cells are sufficiently macerated by the solution for the fungus to show up clearly. The organism will be seen as branching hyphae or mycelial networks.

FIG. 11. Typical picture of eczema marginatum.

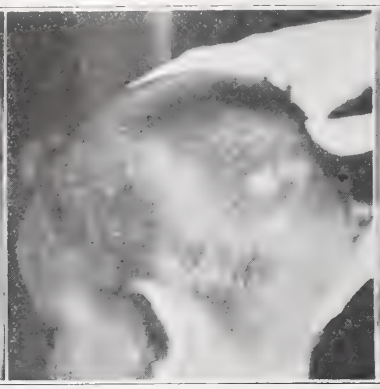

FIG. 12. Microsporon infection—a common form of ringworm.

FIG. 13. A luetic alopecia.

ECZEMA MARGINATUM.

The picture of eczema marginatum (tinea cruris, epidermophytosis cruris, dhobie itch) is too well known to warrant space, but it is worth mentioning. Its occurrence is frequent and it often accompanies the affection of the hands or feet. In White's series of 192 cases, 7 per cent occurred on more than one part of the body. Along with a typical case of eczema marginatum, or without its usual picture, there may be pruritus ani, due to the fungus. Often, only a small spot is present on either thigh as an erythematous, scaly ring, or as macerated erythematous skin in the inguinal fold. In White's series of cases[8] in which the infection was present only on one thigh, 86 per cent were on the left thigh.

RINGWORM OF THE BODY.

Ringworm of the trunk, face or extremities, beginning as a papule and spreading peripherally to form a scaly, red ring with tiny vesicles, is familiar to all. The most common confusion in diagnosis is the late, serpiginous syphilide. An essential diagnostic point is that the syphilide infiltrates more, has discrete nodules, and the ring is not complete. Scaly, elevated, discoid patches of epidermophytosis, varying in size from that of a dime to extensive placques, occurring on the trunk, face or extremities, rarely occur alone, and investigation will usually develop the fact that other lesions exist on the scalp, groins, hands or feet. Tinea versicolor, pityriasis rosea, and extensive seborrheic dermatitis are to be differentiated from ordinary ringworm at times, and in each there are clinical points of distinction. A search for the fungus in epidermal scales will usually clear this up.

RINGWORM OF SCALP.

Ringworm of the scalp rarely occurs after puberty. Indeed, some cases get well spontaneously at this time. It occurs as disseminated or localized types. The localized form (due commonly to microsporon audouini) shows as round spots of fine branny scales, with a stubby growth of hair of uniform length. The disseminated type shows

7. Fox, H.: "Palmar Syphilides," Amer. J. Syphilis, Vol. i, p. 422, 1917.

8. White, C. J.: "The Question of Epidermophyton Infection," J. Cutan. Dis., Vol. xxxvii, p. 501, 1919.

numerous small, scaly spots, folliculitis or kerion. The large-spored trichophyton is capable of causing deep pustulation, with subsequent scarring and permanent alopecic spots. A type commonly seen in Mexican children at our clinic is extensive pityriasis of the scalp, with very little folliculitis or alopecia. Areas of alopecia, or folliculitis, in the scalp of a child should be investigated for ringworm. Often close examination of such lesions about the hair-line will disclose a "head full of ringworm." The "infectiousness" of the disease varies considerably. The most striking case we have seen in the past year occurred in a child who was infected from a Persian kitten. The child's mother had ringed lesions on the face. The kitten was given to another family, four members of which became infected. The cat strayed and was taken up by a neighbor, whose two children developed ringworm.

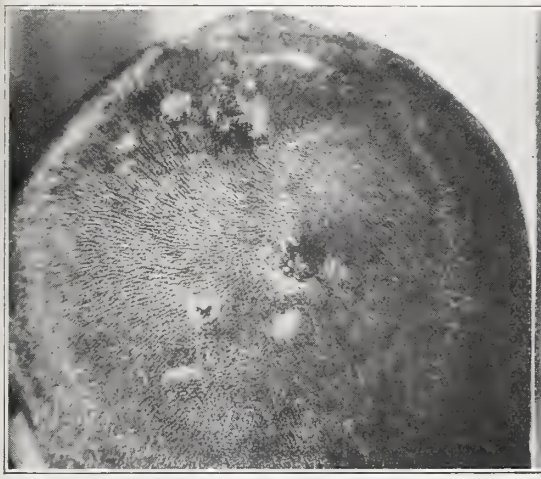

FIG. 14. A destructive type of infection due to trichophyton.

FIG. 15. Atrophy due to ringworm infection.

TREATMENT.

Unless a ringworm of the scalp is confined to one small spot, we do not recommend any treatment except epilation of the entire scalp. Long continued treatment, taxation of patience, exasperation of parents, and in the end absolute failure, are our reasons for this recommendation. The procedure of epilation by means of x-ray is entirely safe. A defluvium is produced in two weeks to a month. In the recent case of a Mexican child, this did not occur until four weeks after one skin unit, unfiltered dosage, had been administered. During the period of alopecia, mild antiseptic ointments and frequent cleansing are indicated. There is a return of the hair in about six weeks. In Hazen's series[9] of 225 cases of ringworm of the scalp, there was one recurrence. MacKee[10] in over 1,000 cases, reported no untoward results from the treatment. This plan of treatment is beyond any question the method par excellence. The same method may be used for a trichophytic sycosis. However, most sycoses are staphylogenic, and these yield to topical applications.

In the treatment of epidermophytosis, exfoliation is the aim, and ointments and lotions containing keratolytics are almost as numerous as are persons who attempt to cure the disease, which is proof that the treatment is difficult. In the acute stage, a strong keratolytic is contraindicated. Yet it is common for strong sulphur salves and tincture of iodine, to be used in such conditions, either of which almost invariably gives rise to a dermatitis, which is not confined to the primary seat of the trouble, but extends to adjacent parts. Generally, ointments composed of 3 per cent salicylic acid and 5 per cent benzoic acid are used during most of the disease, the percentage being modified to some extent by beginning with mild ointments on any acute eruption, especially if on a tender skin, and working up to the strength necessary to get the desired exfoliation. For the exaggerated condition in a weeping stage, with vesico-pustules, and attended with pain and tenderness, wet applications of such mild antiseptics as potassium permanganate, 1-4000, or Liquor Burowii, 1-16, are preferable. After this routine, when the process becomes less inflamed, a change to keratoplastics and then keratolytics is made. The application of lotions is recommended by some, such as tincture of iodine, one dram to one ounce of spirits of camphor; or sodium

9. Hazen, H. H.: "Roentgen Ray Treatment of Tinea Tonsurans," J. Cutan. Dis., Vol. xxxviii, p. 307, 1919.

10. MacKee, G. M.: "X-Rays and Radium in the Treatment of Diseases of Skin," 1921, p. 336.

hyposulphite solution. On the feet or flexures in hot weather, a lotion might be more pleasing than an ointment; however, the exfoliation from it is slower than from the ointment.

X-ray therapy is very valuable in most cases, and we feel that it shortens the course of the disease by at least one-half. Unfiltered doses of one-quarter of a skin unit are used weekly. For the painful, deep-seated vesicles, one-half S. U. filtered with one m.m. of aluminum, are given, and are strongly recommended for prompt relief. The indication for *x*-ray therapy is acute or subacute inflammation, in which *erythema* and *vesiculation* are features.

ABSTRACT OF DISCUSSION.

Dr. E. D. Crutchfield, Galveston: Epidermophyton and trichophyton infections, like the poor, are always with us. The stimulus given the study of fungus infections by recent observations and discoveries and the classifying of these various infections is interesting to all medical specialists. The surgeon and the internist, as well as the general practitioner and the dermatologist must see these cases every day, and in considerable numbers. They are probably more prevalent along the coast than in the higher parts of the state, but they thrive under the conditions of heat and moisture, which characterize the climate in this zone. Therefore, this paper is of particular interest to all practitioners, especially the general practitioner who sees many of these cases, daily.

Unless diagnosed and properly treated these fungus infections are long standing and refractory. Since they rarely incapacitate the patient, often causing but little discomfort, nearly all of these infections are indifferently treated. The great number of remedies for the cure of these conditions indicates how unreliable all of the remedies really are. With the exception of epilation by *x*-ray in tinea of the scalp, there is no remedy which is absolutely trustworthy.

In epidermophytosis of the hands and feet, one-quarter unit dosage of *x*-ray weekly for three or four weeks will usually clear up the eczematoid condition. It is especially important to use keratolytics in order to peal off layer after layer of skin, and in this connection, curettement is not to be forgotten, and has of late been a very beneficial agent in my hands. In the past few months, the application of 5 per cent chromic acid even to the very acute epidermophyton infections has been much better than the application of such oxidizing agents as potassium permanganate. If the lesions of the deep-seated tineas of the scalp are distinct, one had much better epilate the scalp with *x*-ray. This should not be done by one unacquainted with this character of work. To get one case of alopecia in a community through ignorance or too much zeal, may prove disastrous to an agency which, if properly used, is of greatest worth. Some cases of ringworm of the scalp will get well in four or five months, provided the lesions are discrete and superficial, and the causative agent is microsporon, if treated with green soap, ammoniated mercury, and salicylic acid paste, or tincture of iodine, driven into the skin by the negative pole of a galvanic battery, every week or two. Great caution must be used in the application of iodine, as this may cause considerable destruction and necrosis might be obtained, which is even more disastrous perhaps than epilation with *x*-ray, but can be used in some individuals where we would not be able to employ the *x*-ray.

Dr. McGlasson (closing): The treatment of ringworm *is* interesting and it is *very troublesome,* at times. Epilation simplifies treatment and can be depended upon. The defluvium is complete in from three to six weeks, and the hair returns in from two to three months, and that is the end of a difficult problem. In the kerion type of ringworm, if you do not epilate you will get scarring in the scalp. We had one case recently in which the atrophy from pustulation was about three inches in diameter.

The treatment of epidermophytosis is varied. For the acutely vesicular conditions, Burrow's solution potassium permanganate and silver nitrate, are used. The plan of treatment has to be varied; *routine treatment cannot be applied in this work.*

A UNIVERSITY HEALTH SERVICE, ITS RELATIONS TO THE MEDICAL PROFESSION AND TO PUBLIC HEALTH.*

BY

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AUSTIN, TEXAS.

Health is the vital principle upon which all progressiveness, prosperity, happiness and well being depend, and an asset to which all educational, industrial, commercial, professional and agricultural interests grant recognition. It is the hub around which the great wheel of human progress revolves in one great co-ordinated and harmonious function.

The University Health Service is established to carry out these fundamental principals, to keep the student physically fit and to reduce to a minimum the large annual academic and economic loss which is due to indisposition and illness of students. Among its activities are, physical examinations upon entrance to the University; classification for physical training; advice as to the number of courses of study to be carried by those found physically defective; advice on personal and public hygiene; medical and surgical care, including hospital and laboratory service when necessary; control of communicable diseases, and supervision of sanitation, not only of the University but of the community as a whole.

The Health Service encourages the student to seek advice whenever he thinks his health requires it. While this policy brings in trifling injuries and ailments, it leads to the discovery of incipient diseases and disorders that need attention, and protects the community against communicable disease, and the student against infected wounds. Careful

*Read before the Section on State Medicine and Public Hygiene, State Medical Association of Texas, Fort Worth, May 9, 1923. Due credit is given to the Annual Report, American Students' Association.

health records are kept of all students during their University life. This is not only valuable for reference, but will lead to the accumulation of valuable statistics.

The Student Health Service of the University of Texas has thrown open its doors to the medical profession, and invites the co-operation of all physicians. It is neither an institution of philanthropy nor an organization for the promotion of paternalism. It strives to co-operate, not to compete with the medical profession. It strives to promote the welfare of organized medicine. It partakes in no manner of compulsory health insurance or contract practice. It functions in the interest of sound economy by keeping the maximum number of students in the class room. The following are the regulations under which it operates:

"*Medical Fee.*—To safeguard and protect their health, all students in residence are required to pay a medical fee of five dollars ($5.00) each. For this fee, each student is entitled to the following service:

"(1) A thorough physical examination by the University physicians at the beginning of the session. In abnormal cases, exercises will be recommended that are specifically adapted to meet the individual requirements.

"(2) Consultation with the University physicians during office hours at the University, except Sundays and holidays.

"(3) Necessary calls by the University physicians at the student's home, and all visits that may be necessary while the student is confined to a hospital.

"(4) Board, lodging and nursing at a hospital in case of necessity, not to exceed twenty-one days. In the event of an epidemic or an unusual amount of sickness, this limit may be reduced. In case of necessity, the limit may be extended. Any reduction or extension will be made only upon the recommendation of the Dean of the health service, with the approval of the president. These provisions apply only for the relief of acute conditions, and do not include special nursing unless authorized by the Dean of the health service in cases where students are financially unable to employ a special nurse.

"(5) The ambulance or carriage required to convey the student to the hospital.

"(6) Pathological and *x*-ray examinations, when authorized by the Dean of the health service.

"(7) Minor surgical operations for the relief of acute conditions, such as cuts, sprains and simple fractures.

"(8) Eye, ear, nose and throat examinations and treatments. This is not to include operations for the removal of tonsils or operations for chronic nasal diseases.

"No student, however, is required to patronize a University physician. At his own expense, any student may choose any other physician he may desire. Furthermore, he may have another physician and still be entitled to the benefits of provisions (4), (5) and (6), above, provided no account be entered against this department except by permission of the Dean of the health service.

"A fee sufficient to cover cost of virus and dressings will be charged for vaccinations.

"A fee will be charged for surgical operations not included in Section 7.

"All operations other than emergency operations in which surgical fees are charged, will be performed only after consultation with and approval of parent or guardian.

"Hospital and nursing fees for all operations not included in Section 7, must be paid by the student, unless their payment is authorized by the chief of medical staff."

The student, having read these regulations, if taken ill upon arrival in the city, will call upon the University physician, unless he has been referred to some physician by his parents or family physician. In either event, he is safeguarded against falling into the hands of charlatans or waiting in some rooming house until he is seriously ill before calling a physician. He has the advantage of early treatment; has pointed out to him the best course to pursue until he becomes acquainted in the city; the community is protected against the possible spread of infectious or contagious diseases, and the University physician is at least temporarily taking the place of the family physician.

A large percentage of students are minors when they enter the University, some of them children, away from their homes and not in a position to know what is best for them in case of illness; they do not know when they are being exposed to contagious or infectious diseases; they may occupy rooms recently vacated by tuberculosis patients, or be subjected to many dangers too numerous to mention. Therefore, the Health Service is now recognized by most universities as a necessity, not only for the protection of the student, but for the protection of the University and community and for the progress of education.

Students are not required to patronize the University physicians. They may choose any physician they wish, and the Health Service freely co-operates with them, as stated above. Through personal contact with the University physicians, students are made to feel that all ethical physicians are their friends and are ever ready to render assistance. The medical profession is held out to them as the bright light in support of humanity.

A health service greatly aids in the promotion of public welfare by cultivation of an appreciative attitude towards hospitalization. Many of the very best people have an unreasonable dread of hospitals, and use them for diagnosis and treatment only as a last resort. This is particularly noticeable among students. When they are encouraged to go to an infirmary early and conditions are such that they cannot well be cared for at their rooming houses, hospital treatment is more readily accepted. It will mean much to organized medicine to have our University students understand that they can obtain better care for themselves and for their families in well conducted hospitals than at

home, and will mean much to progressive medicine, to diagnosis, to treatment and to the equipment and maintenance of hospitals.

University students, as a rule, become leading citizens in their respective communities, and the University physician is not unmindful of his opportunity to spread progressive and ethical propaganda in the interest of educated medicine. During consultations with students, questions often arise which involve medical tradition or touch upon problems of medical practice. They offer an opportunity to show the future community leaders that medicine is rapidly changing from merely an art to an art and science, and based upon certain fundamental branches of science, such as chemistry, physics, biology, bacteriology, etc. Students must learn that results in medicine are not haphazard, but that cause and effect follow each other in logical sequence, as they do in experiments in the laboratory. There are still too many intelligent people who consider medicine a medley of tradition, mystery, long sounding terms and personal opinions. In removing this false conception from the public mind, modern medicine has much to gain and nothing to lose.

The American Students' Health Association now has fifty-six members. The universities which make up its membership have well organized health services, and the association is developing as nearly as possible a uniform system of handling the many difficult problems which arise in university life. The university interested in keeping to the fullest efficiency the health of the student body must have a student health service to do preventive work.

Environment is the most practical teacher of sanitation. By co-operation of all departments of the university with the health service, a splendid system is provided for effective instruction. The care of the campus and buildings, ventilation, heating, lighting, drinking fountains, plumbing, drainage, mosquito control, regulation of rooming and boarding houses, swimming pools, isolation and quarantine of communicable diseases, etc., are important items in preventive medicine.

It is important to make physical examinations of those serving food and drink to students, and to carefully inspect not only their methods of handling food, but the quality of the food served. The crowded living conditions in the immediate vicinity of the University, make it imperative to watch carefully the approach of infectious or contagious diseases, which so frequently find their way into the student body or university community. This combination of conditions and circumstances, converts the student district into a community health unit, with all of its problems in the prevention of disease and the maintenance of health. Here the health service operates—educating, creating public sentiment and encouraging and urging a demand for sanitary improvement. It co-operates with the local boards of health, with public-spirited citizens and with the students, to bring about the living conditions that make the college community one of the most attractive in which to live. To interest a number of intelligent men and women in the sanitary improvement of their surroundings, and teach them some of the fundamentals of prevention of disease, is to prepare them for better citizenship. It teaches the student that a sound body as well as a sound mind are essential to the best type of citizenship; that the aim of the university is to prepare students to meet the most universal and important experiences and issues of life; to give them the knowledge most necessary to effective living in our present complicated economic system. Through it recognition is given to the physical well being of the student.

Greater emphasis must be placed upon the fact that dissemination of knowledge essential to self-preservation is the first duty of education. The great contribution of the health service to public health is the education of the student to appreciate the importance of hygiene, sanitation and prevention of disease, to himself and to his community. Members of the staff of the health service in their daily contact with students have an excellent opportunity to emphasize the importance of observing all those things which have to do with the prevention of disease and the promotion of physical health and mental development. The discussion of the health conditions for which the physician is consulted brings to the student the practical solution of personal and public health problems, and while he is in a receptive mood many valuable and lasting impressions are stamped upon his memory. While it is usually difficult to make those who are well show great interest in how to keep well, the sick and defective are easily interested in the fundamental principles of corrective and preventive medicine.

The staff members while in conference with students have an opportunity to observe the strain of modern education upon the central nervous system under varying conditions. These conferences bring to the surface the blight of worry, the far-reaching effect of unhappiness, bad habits and depressing environment, upon mental efficiency.

They present an opportunity to demonstrate the potency of physiotherapy, the benefits to be derived from the proper mixture of work, play and social intercourse.

A thorough physical examination of the student at the time of registration, warns him of dangers of which he may not have been aware, when his attention is called to errors of refraction, defective hearing, carious teeth, flat feet, curvature of the spine, incorrect posture, cardiac defects, possible anemia, hernia, tuberculosis, albuminuria, diabetes, or other defects. Then the significance of this examination becomes apparent, and he usually expresses his appreciation of the opportunity he has been given to ascertain his true physical condition.

By a thoroughly competent director, under the advice and supervision of the medical staff, special corrective physical training should be given to those students having physical defects. Frequent examinations of these students should be made and recorded, all changes, either for better or worse, being noted, and exercises prescribed to meet any new requirements. By this method some of the defectives can be improved, and all will have a guarantee against being required to do exercises which might prove detrimental to them. The development to useful citizenship with the hope of living an average life, is the ultimate aim of this course in corrective training.

Certification of physical health as a prerequisite to entering athletics, and prescriptions for corrective physical training, further emphasize the importance of physical examination, training and education. The attention of the student is called to any underweight, obesity, flabby muscles, rapid breathing and abnormal increase in heart action following exercise, that may be present. Indigestion, insomnia, loss of appetite, mental fatigue, inability to concentrate, and general nervousness, any or all may be due to lack of physical culture, training and education. The student is impressed with the value of physical training, and the necessity of preserving his own health and protecting the health of others. He becomes an advocate of public health in its broadest sense. Through him, destined to become a community leader, much can be done to establish in the minds of the people a sympathetic attitude towards health measures, which is a matter of the greatest importance if public health is to attain its greatest advancement. Therefore, the health service has its important functions in university life. It spreads its influence in support of educated medicine, and is destined to become an important factor in the promotion of public health.

A CRITICISM OF MUNICIPAL QUARANTINE REGULATIONS.*

BY

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When one is neither engaged in any phase of public health work nor in the practice of clinical medicine, it requires some temerity to attempt to discuss quarantine methods. However, if such an one may be accused of approaching the subject from an academic viewpoint, the rejoinder may with some truth be made that, if academic, there is at least no prejudice.

Accurately speaking the term *quarantine* refers to the "detention of well persons exposed to infection for the period of incubation of the disease. Isolation refers to the segregation of the sick and carriers."[1] The terms are usually used interchangeably, and it is in this sense that they will be used here. The sole function of quarantine is the protection of the population from those who are capable of transmitting infection. It is a prophylactic measure, taken for the welfare of the community at the expense of the individual. It is a procedure based upon the assumption that an infringement upon the liberty of the individual is justified if such infringement is necessary for the protection of the public.

The efficacy of quarantine measures in any given disease is dependent upon the method of dissemination of the disease, the stage of the disease in which it is most easily communicated, the time at which a diagnosis may be at least provisionally made, the promptness with which measures are instituted, the ability to determine the period of infectiousness of the individual, the vigor with which measures are enforced and the co-operation secured from those involved.

It is, of course, obvious, and it is universally recognized, that those diseases which are not contracted by contact, immediate or remote, nor transmitted by an intermediate host, are not influenced by quarantine. This does not, of course, negative the value of quarantine in any disease the etiology of which is unknown, for, while a knowledge of the causative factor is a valuable aid for the correlation of appropriate methods of combat, we have satisfactory illustrations of the benefit of quarantine in such diseases. Even the method of transmission may be unknown, or only surmised, and yet good results be obtained. Our opinion as to the method of dissemination of the agent concerned in scarlatina has materially changed in recent

*Read before the Section on State Medicine and Public Hygiene, State Medical Association of Texas, Fort Worth, May 9, 1923.

1. Rosenau: Preventive Medicine and Hygiene, p. 498.

years, but the value of the isolation of these patients has not altered. Undoubtedly, however, with the advent of definite knowledge relative to the organism, its characteristics and its cultural requirements; with the devising of appropriate methods of recognition, it becomes a simpler matter to recognize the disease, detect the carriers and establish scientifically the point at which isolation should terminate. Obviously, also, in insect-borne diseases, means devised to protect against contact with people, with no effort to prevent access of the intermediate host, are totally ineffective. An excellent illustration is afforded in our antiquated state sanitary code, in its regulations relative to yellow fever. Surely, if our quarantine regulations are not to fall into disrepute they must reflect the best information of present day medicine and, in so far as the code is applicable to municipal affairs, so far will the municipal department of health come in for criticism by the profession and the public.

The value of quarantine measures depends upon the stage of the disease in which it may be most easily communicated. This is strikingly exemplified in those diseases in which the individual is most dangerous in the early stages of the disease, in which even a provisional diagnosis may be difficult or impossible. In those conditions in which the patient is not ill enough to be confined to bed and his symptoms are not yet such as to lead to a diagnosis, isolation is not practicable until late, and the wide distribution of the organisms has already been effected. It is good practice, unquestionably, to isolate these individuals for the period of time that they are recognized as infectious, but in doing so, we should recognize that we can only hope to prevent a distribution which is small in comparison with that which has already taken place.

As an outsider, I feel that a situation of this kind should call for a more intensive education of physician and layman regarding the early symptoms of these diseases and the importance of their early recognition. I would also feel that where it is recognized that the greater amount of possible damage has already been done, measures which would entail serious inconvenience or economic loss are not warranted. Whooping-cough may be taken as an example of this type of disease. Usually unsuspected until well into the catarrhal stage and unproven until the development of the paroxysmal cough, these children are at liberty to transmit the infection to the limit of the radius of their activity at the time when dissemination is easiest. Unquestionably, isolation should be instituted at the earliest possible moment, but the isolation of the child after the development of the typical paroxysms is much like locking the stable door after the horse has been stolen.

A criticism which may be made, not of quarantine regulations but of health officers in their relation to the practicing physician is that they do not place enough emphasis upon the requirement that cases should be reported whenever they are suspected of being communicable. Too many physicians, anxious to conserve the interests and convenience of their patients, hesitate or refuse to report communicable diseases until diagnosis is definitely established. In so doing, they permit damage which cannot be undone by subsequent rigid isolation. In this respect the practitioner needs frequent reminder of his public obligation.

A defect, more or less serious, in the application of quarantine measures, has its origin in our lack of knowledge of means by which the period of communicability may be determined. In those diseases in which the etiologic agent is unknown, and in those in which the mode of transmission is not definitely established, there is no scientific method of determining the point at which transmissibility is at an end and quarantine may be lifted. In these cases the period of restriction must be more or less arbitrary, and may be based on some criterion which may later be found to be entirely erroneous. It is one thing to hold a patient with diphtheria until the organisms are no longer found; and another to hold a scarlatina case or a measles patient, an arbitrary period of weeks. In the one instance we have a safe criterion; in the other we have only a rough approximation, reached by experience, which has been more or less satisfactory.

In this connection, it might be pertinent to remark that in such diseases as diphtheria, the persistence of organisms, particularly in contacts, requiring prolonged isolation, may well arouse the suspicion that we may be dealing with nonvirulent organisms, and provisions should be made for such determinations.

The efficacy of quarantine varies directly with the vigor with which it is enforced. Quarantine which is not enforced makes the health department and health laws a laughing stock, and brings the whole matter into disrepute, so that both the physician and the public flagrantly flout the law. We have had no such situation of late years in Dallas.

The factor which is, to my mind, of paramount importance in securing the prompt and universal reporting of diseases and the faithful observance of quarantine regulations, is the co-operation of the practicing physician and the public with the health department.

To aid in securing this co-operation, there are three avenues of approach: (1) Through appeals to the social conscience; (2) through education as to the damage done by failure to quarantine, and, (3) by using every effort to mitigate the inconvenience and loss of quarantine.

To a certain number of people an appeal, often repeated, for co-operation in protecting others will elicit real response. Others—and they constitute a large mass—are selfish enough to be little moved by such pleading. To all, there is the possibility of appeal through the gravity of the situation. There are physicians as well as laymen who do not fully recognize the fact that some of these diseases, which they consider so lightly, may have considerable mortality rates and are to be regarded as serious maladies. Education along this line is quite generally needed and not always given.

By far the most important means of securing the co-operation of physician and patient, is a genuine sympathetic effort to make the restrictions of quarantine as light as may be without injuring its efficiency. Too often quarantine is instituted promptly, only to be removed with much evidence of lack of haste by the health department. If quarantine is lifted at the earliest safe moment, there will be much more co-operation than is found where no care is taken in this regard. If, too, the public can be convinced that quarantine is instituted only when really necessary, more sympathy with the efforts of the health department would be evidenced. In this connection, permit me to say that I have for a long time felt that isolation of chicken-pox is an unfortunate thing. It is quite generally recognized by both laymen and physicians, that chicken-pox is a disease of little moment, and that the chief concern of the health department is in determining whether it is chicken-pox or small-pox There is general resentment against quarantine in this disease, which is manifest in the failure to call a physician, and the failure of the physician to report the disease if called. In this way the very purpose of isolation is defeated, and a spirit of disregard for quarantine regulations engendered in the minds of the people. I believe that far better results would be secured by the abolition of isolation in these cases, requiring only that the cases be reported, so they may be seen by a physician capable of determining whether small-pox is present. This would bring about the co-operation so much needed, and prevent the occasional mild case of small-pox escaping notice, as now too frequently happens.

Legislation of any kind accomplishes very little except as it expresses the ideas and ideals of those to whom it applies, and the proper carrying on of quarantine measures can never be secured except through a real effort to educate the physician and the public to the necessity for them. And, just as resentment is kindled when liberty is restricted, so can co-operation be secured by a sane and sympathetic effort to make the burden as light as it safely may be.

ABSTRACT OF DISCUSSION.

Dr. C. W. Goddard, Austin: Dr. Black's criticisms of the public health work in Texas points to well known defects in our system of public health work. As our State Health Officer, Dr. Beazley, is not present, I take the liberty to say that our state sanitary code is very much in need of revision. Our health laws are in need of amendments providing for more complete co-ordination between the State Health Department, the county and city departments, and all volunteer organizations having to do with public health.

At a recent conference with some of our state officials and some of our leading physicians, it was decided to invite the co-operation of the State Medical Association in rewriting our sanitary code and in the reorganization of our health department. A bill is now before the Legislature, which provides for the appointment by the Governor of a state board of health on a six-year tenure of office, terms to expire by twos, every two years. the board to appoint the State Health Officer, and have full control of the State Department of Health. In case this bill becomes a law it will be a step in the right direction.

Dr. A. H. Flickwir, Houston: I agree with Dr. Black that a great many of our quarantine laws are obsolete. Diseases such as tuberculosis we do not pay enough attention to. I would like to ask what he thinks about the quarantine of venereal diseases, and what standard there should be for their release. I received recently a prospectus of the new ordinance of the city of Chicago, regarding the release of venereal diseases from quarantine. I have always held that when I got six negative slides the patient could be released from quarantine for gonorrhea, and I have held the syphilitics in quarantine until they had had four or five injections of salvarsan, and one or two negative Wassermanns. We can't keep them forever. I guess I have been in court perhaps fifteen or twenty times, when some lawyer had gotten out habeas corpus proceedings trying to release women from venereal quarantine, and we have defeated them each time. Only one case was released, and that was when the laboratories failed to agree on whether it was infectious or not.

Dr. Black, (closing): I feel that the most improvement that could be made in handling the quarantine question will come of closer co-operation between health officer, physicians and the public, which can be secured only through education. Recently at a luncheon in Dallas, at which twenty men were present, invited because they were representative men, all of them at the top of their respective professions, a discussion on whooping-cough disclosed that a majority were ignorant that there was any mortality connected with the disease. They considered it a minor affair, and an infringement on the rights of the individual to quarantine it. The physician needs educating as badly as the layman. I am not advocating the isolation of chicken-pox, or that it be allowed to run free. My contention is that the vast majority of cases of chicken-pox are not being reported because physicians feel competent to diagnose the disease, and do not want to quarantine be-

cause they consider it a minor disease. If the family were assured they would not be quarantined if the disease proved to be chicken-pox, I think these cases would be more uniformly reported. An illustration of that lies in a recent epidemic of chicken-pox in which I was concerned. My sister's child developed chicken-pox, and the neighboring children also had it. The principal of the school called up the neighbor and was told that the children had a minor ailment, and they were back in school in about two days. I saw my sister's children, reported them as cases of chicken-pox, and it took three weeks to get them out of quarantine. The public resents such inequalities in detention. I believe if the cases were reported and diagnosed, but not quarantined, we would have better results.

Regarding venereal diseases, I think the quarantine should be applicable to both sexes alike. The period of infectiousness of these people is extraordinarily difficult to determine, particularly in gonorrhea. So far as syphilis is concerned, I think the patient should be held until the open lesions are cured, then referred to a clinic or competent physician.

MENTAL HYGIENE.*

BY

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Mental Hygiene may be defined as that branch of medical science having to do with the conservation of mental health, the standards of care for those mentally ill, the promotion of a broader study of mental disease, and a dissemination of knowledge pertaining to this subject.

The subject will be discussed in this paper under three broad heads: (1) The Problem, (2) What has been accomplished and (3) What may be accomplished.

THE PROBLEM.

The problem of Mental Hygiene is by no means of recent origin. For many years a small group of broad-minded persons have been fighting the battles of the failures in life, trying to secure for them an adequate understanding, which would be the basis for creating a new, a more enlightened and a constructive and helpful program for dealing with them.

Despite the fact that these public-spirited people have been engaged in this work for a long time, until fifteen years ago it can hardly be said that they ever had a comprehensive program founded on scientific principles and thus practically workable. Their moving force had been Faith, and, indeed, it is probable that all great movements have their origin in the faith of those who believe in them.

Mental Hygiene up to some fifteen years ago seemed a miserable, neglected, stunted plant, choked by obnoxious weeds, the worst of which was the fallacious belief that the so-called functional nervous disorders, personality defects and anti-social behaviour, are not mental disorders, and that the only person mentally ill was one who had been adjudged insane and was found living in one of the many hospitals for the insane.

To furnish a proper conception as to the scope of Mental Hygiene and the need for the broad dissemination of knowledge of the subject, it may be mentioned that these problems have to do with the care of those sick in mental hospitals, with prison reform, with pauperism, alcoholism, feeble-mindedness, juvenile delinquency, atypical children, vagrancy, prostitution, vocational education, the neuroses and psycho-neuroses, drug addition, social hygiene (venereal prophylaxis), and many others, all of which have been recognized by some as being problems that would have to be attacked more or less exclusively by methods founded on the principles of hygiene of the mind.

That we may more fully appreciate the need of a further development in the work of mental hygiene, it will be well to elaborate somewhat on each of the problems heretofore mentioned.

Psychiatrists no longer use the term "insane" in any classification. Unfortunately, the word is officially used in a legal sense and has been applied very loosely for a long time to those patients who are to be found in the large asylums and hospitals of the country, and to persons in the community who behave so strangely as to set them apart from other people. The law defines an insane person as a person of unsound mind, thus merely substituting one term for another. Those who are familiar with mental diseases know that there are many forms of mental illness, and to group them all under one term, "insanity," furnishes no more information as to the nature of their illness than would be furnished by saying that a sick person was suffering from a cough.

It is impossible to give a clear-cut definition of the legal term "insanity." The border line between mental disorder and actual legal insanity, is often indistinguishable. As one specialist on mental diseases puts it, "In many cases the question is about as easy to answer as how high is up, or how long is a string."

A normal mind is defined as one which enables the individual to adjust himself as a whole to his environment. Legally, an unsound mind is the lack of capacity for efficient adjustment. The normal mind, for example, clearly pictures the outside world; it mirrors the environment as it is; it does not habitually see things which are not there, nor habitually misinterpret the impressions furnished by the senses. The normal mind relates us to the world of our physical environment; it chooses our vocation; it earns our living; it adjusts us to smooth and pleasant relations with our fellows. When the mind loses this capacity to adjust its possessor to its surroundings, so that the individual becomes a menace to his own interests, or a danger to society, then the court calls this disorder "insanity."

In most communities, however, to know that a person has been labeled insane by due process of law, tells us practically nothing about the individual except that the herd, as represented by the jury having noted his difference from the average individual, has concluded to label him insane and segregate him.

One of the problems of mental hygiene is to furnish a better classification of the characteristics of this group of humans labeled by law as insane. Their conduct, to be sure, is characterized by social inadequacy, the individual frequently tearing down existing conventions and deviating greatly from the normal conduct of the community. Thus, it can readily be seen that insanity is not a medical term at all, but a social and legal term. It does not refer primarily to mental disease, but to conduct, and to that type of conduct which is incompatible with the community life of which the individual is a member. While legally all persons adjudged insane are mentally ill, it does not necessarily follow that all who are mentally ill are insane. Mental illness is a broad concept, which frequently includes many highly efficient and valuable members of the community.

It is most interesting to study the treatment in the past afforded the so-called insane. In the middle

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ages, they were thought to be either inspired of God, or as being possessed of the devil. The literal application of the doctrine of diabolical possession lasted over many years, and along with this attitude, born of ignorance, there naturally went the twin brother of ignorance, fear. Unfortunately, these twins operate today against the best care and treatment for those mentally ill. However, it seems a far cry from the present-day conception of the treatment of mental patients to the cruelties imposed upon them less than one hundred years ago, when they were frequently not only isolated, but kept in chains and treated like animals, being many times flogged, with the idea of driving out the evil spirits from their bodies. Fortunately, not all of the ancients showed this lack of understanding, and we read that nearly 2,000 years ago Celsus advocated for the cure of those mentally sick, music, baths, walks in beautiful gardens, reading and meditation. Understanding gradually came to the public, largely through the efforts of a small group of broad-minded persons, none of whose names stand out more notably than does that of Dorothea L. Dix, who worked for many years to improve conditions existing in the mental hospitals of this country.

It is estimated that there are in the neighborhood of 400,000 mentally sick patients in the hospitals of this country, and it is a most important problem of mental hygiene to improve the conditions under which they live, and to treat them so intelligently that a larger percentage each year may be readjusted to the community life from which they came.

It is an appalling fact that 70,000 new patients are admitted annually to these hospitals. Visualize for a moment this army of men and women, 70,000 this year, another 70,000 next year, and perhaps more than 70,000 in 1925, and the tremendous problem of mental hygiene in its endeavor to reduce these numbers will be appreciated. Some 30,000 people die annually in hospitals for mental diseases. The present average per capita cost of caring for patients in mental hospitals is $250, making a total cost of about $60,000,000 a year, to which sum must be added the economic loss through the withdrawal into these institutions of about 75,000 persons each year. The number of beds in this country for mental patients approximates the total number of beds in all general hospitals of the country. It would seem, under these conditions, that a strong appeal to the people might be made for a most serious consideration of better mental hygiene, the appeal in this case being directed to the pocketbook of the public.

The Criminal.—That we may better understand the social group to which the term "criminal" has been applied, it will be well to examine the concept and see just what it includes. The term "criminal" is applied to one who has been pronounced by due process of law guilty of an offense against society, which offense has been specifically prohibited by statute. It is thus seen that the concept "criminal," like the concept "insane," is purely legal and sociological, telling nothing about the individual, simply expressing society's legal attitude toward this group.

For example, a man is adjudged by a jury to be a criminal for having committed larceny, is sentenced to a criminal institution for punishment, and is branded a criminal without any consideration as to the reason for the anti-social act. He may have stolen under the influence of the early stages of paresis, although previously he may have been of high moral character. The theft may have been committed under the excitement of a hypo-manic attack. Possibly the individual was a mental delinquent, or perhaps may have been under the influence of alcoholic intoxication. The fact remains, however, that the individual had committed larceny, and he is, therefore, termed a criminal.

It would be impossible to ever learn much about mankind in its different aspects by studying such groups by the ordinary legal classification. Knowledge can only be obtained of this concept by studying the criminal individuality, and the relation of this anti-social individual to his environment. It has been shown that the insane are a group of socially inadequate persons who have been separated from the community, but upon whom the community looked with leniency and sympathy, believing them to be suffering from mental disease, and, therefore, irresponsible. The criminal, on the other hand, although he, too, manifests socially inadequate conduct, and although he, too, is separated from the community, is looked upon by the community quite differently, not being considered with leniency and sympathy, harshly, in fact, with hate, for he is held responsible for his acts, and punished accordingly. The feeling of hate manifested by the herd is, perhaps, directed more toward the anti-social act than toward the individual committing the act. This is clearly seen in those acts of mob-violence in which an individual is killed by a crowd of persons who have no knowledge of or acquaintance with the individual.

Ignorance in this country concerning crime and criminals is appalling. We have no means of ascertaining the number of crimes committed, the number of arrests made, or the number of convictions resulting therefrom. In our criminal system in general we are not preventing crime and we are not reforming the criminal. Our detention homes and jails are elementary schools in misconduct; our penitentiaries and reformatories are secondary schools in crime, and our state prisons are practically colleges of criminal arts.

Prison reformers have for a long time been aware of the poor results of treating criminals in accordance with the principles of hate of the herd. The American Prison Association has been in existence for fifty years, and while marked changes for the better have been brought about, there are still existing in many states of the Union criminal institutions, where the criminal only is considered and never the individual. Repression is the order of corrective treatment, taking everything desirable out of life. The prisoner cannot talk, he cannot turn his head at meal time, he cannot walk except in a certain way, and, indeed, the general scheme is to remove all of the joy of living. It would take a fairly good character make-up to be able to stand a long period of systematic repression, but when we remember that many who find their way into prison are of a defective type of personality, and others are mentally sick, it will be seen how futile are such methods. Society is surely expressing its hate in a diabolical manner by ruining these individuals, both mentally and physically, and they leave the prisons so embittered against society that they naturally become recidivists, thus making this form of treatment a very costly operation, as these frequent offenders become practically a residual group, to be taken care of indefinitely by society.

But little consideration is given to the fact that other large social problems are causative factors in criminal behavior. Any court might easily find on broader analysis that a given case of larceny might be more properly labeled poverty, disease or ignorance. A survey of our prisons and reformatories would show today that poverty is lodged there in great predominance. We find there the children of ignorance, under-privileged boys and girls; also the offspring of diseased or alcoholic parents. Because these individuals had sick strains in their make-ups, their personalities have been warped, and they could

not meet the social expectations of the community. The sins of the fathers have been visited upon them. Clearly, the causes of crime lie in the social environment as well as in the individual make-up. However, the courts of this country, with the aid of some 300 penal institutions, grind out in this mill the tremendous number of 500,000 cases each year. It is, indeed, unfortunate that the total cost of this ungainly piece of machinery cannot be fairly and squarely presented to the American public.

However, it is known that the average cost of detection, indictment, trial or other disposition of the average felon in the State of New York, is estimated conservatively at $1,000 each. In 1917 in New York State, 2,229 felons were convicted, at a cost to the taxpayer of over two million dollars. Eighty-seven per cent of these are recidivists. A most conservative estimate for the entire United States for the group of criminals classified as felons would be over fifty million dollars in any one year.

It has been repeatedly demonstrated that practical preventive measures may be instituted, by which the present unsatisfactory status of the so-called criminal class might be improved. It is only to be accomplished through a thorough knowledge and sensible application of the principles of Mental Hygiene, and the consideration of the criminal is surely another of the great problems with which Mental Hygiene is struggling.

The Feeble-Minded—In Mental Hygiene the problem of the feeble-minded is one of great importance. The social mischief of which the mentally defective is capable is now becoming fully realized, although it is safe to say that not a single state is as yet doing anything for more than one-tenth of its unfortunates of this class.

To obtain a better understanding of the immensity of this problem, it will be well to analyze the social concept of the feeble-minded. In general, it may be said that the feeble-minded group includes those individuals who are mentally deficient; that is, inadequate in their social levels of mental reaction, and whose defect, from a practical standpoint, is due wholly to an arrest of mental development. To explain just what is meant by "arrest of development" is not easy. Arrested development may be due to an inherent defect in the germ plasm itself, and thus in the true sense be hereditary; or it may be due to injury to the brain, the result of disease before birth, and so be congenital; or it may be due to injury operating upon the brain during early years of development. Physical injury at birth and infection during infancy, are prominent causes, and occasionally cases resulting from inherited deaf mutism, high degrees of myopia and adenoids are seen.

Already it will be seen how broad is the subject of the feeble-minded, for not a few defectives are such because of the effects of congenital syphilis upon the central nervous system, and the social problem in this case is not primarily that of the feeble-minded, but rather of the much larger problem of syphilis, of which the feeble-mindedness is but an incident. Again, in the matter of head injury sustained during birth, which may produce an arrest of mental development, we have here the larger question of the way to handle the problems of child birth. Again, in the South, many children are defective because of hook-worm infection, or of pellagra. Here the problem is not primarily that of the feeble-minded, but rather that of removing the cause, which is a preventable disease.

The feeble-minded group is by no means sharply defined, for it includes not only the idiot, the imbecile, the feeble-minded as ordinarily understood and as found in institutions, but it also embraces the juvenile delinquent, and perhaps fifty per cent of the criminals and prostitutes. Indeed, to these groups should be added the backward and atypical children, for the most part problems of our school system, and a certain percentage of the vagabonds, unemployed and pauper classes. For good measure should be also considered a certain percentage of the epileptics. We are thus confronted with an appalling problem as to how these classes can be aided and reduced in number. It may be well at this time to mention briefly the methods used to indicate the degree of feeble-mindedness present in any particular case. For a number of years the literature of mental testing has grown enormously. Possibly the Binet-Simon measuring scale of intelligence is more broadly used than any other, and it is today very useful in ascertaining the mental age of an individual during the first twelve years of life. Healy, Whipple, Fernald, Goddard, Yerkes and many others have devised tests to classify more accurately the intelligence of adults. While all of these tests contain something of merit, it is felt that none of them are wholly satisfactory, because of the fact that the capacity for mental reaction is so complex a matter that it would seem impossible to devise a measure which consists wholly of a number of questions which are to be answered by the individual. However, these tests are the best we have today and are practically used by all persons working with the feeble-minded.

I am sure that almost everyone has the impression that a large percentage of the feeble-minded are taken care of in institutions especially planned for this mental defective group. It is a fact that on January 1, 1920, all of the states except two reported mental defectives under institutional care, and statistics compiled by the National Committee for Mental Hygiene in 1921 show that there are 40,519 mental defectives receiving institutional care in state institutions. This number does not take into account those confined in alms houses, penal institutions or reformatories; neither have we any basis to estimate the total number of mental defectives admitted annually to these state institutions. Indeed, the fact that 40,000 individuals are classified as feeble-minded to a degree which necessitates their segregation from society, makes us realize that this is in itself a serious problem in mental hygiene; but this 40,000 is a very small part of the tremendous army of feeble-minded with which society has to contend.

It is rather disconcerting to learn that there are no figures available which can tell us even approximately the number of feeble-minded individuals in the United States outside of the institutions especially maintained for their care. Fortunately, during the past few years a few states have realized the urgent need to society of figures showing the cost to the state of the feeble-minded. Surveys have recently been made in Indiana, Mississippi, Oregon and a few other states. I desire to quote from the report made by the University of Oregon on the survey conducted by the Public Health Service in that State during 1920. A house-to-house canvas was made, and leaving out entirely those individuals residing in institutions for the feeble-minded, it was found that in a population of 783,245, 55,549 or 7 per cent of the whole population were mentally defective to such a degree as to be constantly dependent upon other members of society for support. When to this number is added over 9,000 individuals residing in public or private institutions, in the State of Oregon, the appalling fact is presented that 65,423 individuals, or nearly 10 per cent of the entire population, are either potential or actual social liabilities. These mentally abnormal individuals cause

practically all expenditures for maintaining police, constables, courts of criminal jurisdiction, jurors, witnesses, jails, reform schools, penitentiaries and all state, county and city institutions, and other agencies engaged in caring for or otherwise assisting the mentally handicapped, the delinquent and the dependent. Further analysis of this group shows that a considerable percentage each year are being socially readjusted, but that approximately 4 per cent of the total population is a residual group, which must be cared for indefinitely by the taxpayers of the state, and that 50 per cent of these, or 2 per cent, live outside of institutions.

During this most interesting survey the fact was brought out that the State of Oregon was paying $118.00 per year more for the maintenance of burglars than it was for its age-worn soldiers living at the Oregon State Soldiers' Home. Another interesting fact was that the cost of state institutions for one year was $1,156,980.77, a per capita cost of $1.60, which the cost of dependencies to counties was $593,675.16, per capita cost of 0.71. Thus the cost per person, man, woman or child, in Oregon per year, of county and state dependents, was $2.31.

It is safe to say that similar surveys will be made in practically all states of the Union within the next few years, and no doubt many states will show larger percentage of feeble-minded citizens than did the state of Oregon in the survey of 1920. The grand total of the actual cost to the citizens of this country of this tremendous army of defectives would present appalling figures could it be estimated. Surely the feeble-minded presents one of the greatest problems in Mental Hygiene.

The Pauper.—We are inclined to regard this group as consisting of those individuals who have been unfortunate or unlucky in life, but on analysis we are obliged to conclude that by far the greatest percentage of pauperism is caused by a mental failure to readjust after some particular complex, either mental or physical. In other words, the individual loses his nerve, his ability to come back.

History repeatedly shows the wonderful work done by those physically handicapped, an example of which is the remarkable record of Miss Helen Kellar, blind and deaf from childhood. The failure with the pauper is psychological, and had he the mental capacity he would not have gone to the alms house. Some of the inmates are manifestly suffering from mental disease, while others are blind or paralyzed, and still more helpless in old age, frequently having been deserted by their families. Surely Mental Hygiene finds a problem here, to study these unfortunates and devise plans to reduce the number found in institutions maintained by the public. Unfortunately, no methods exist at the present time for estimating the number of inmates in the pauper institutions of this country, nor the yearly admission to these institutions.

The Prostitute.—Prostitution is a complex social problem, dependent on many causes. Easily 50 per cent are mentally defective individuals, and 30 per cent are psychopathic or epileptic. Practically 70 per cent are at all times physically diseased with venereal infection.

Measures to correct prostitution have been legion and have almost always failed, because here again this social problem has been treated as a unitary concept, as a single phenomenon, instead of a complex of many things. Again the hate of the herd has operated hopelessly, as with the criminal, the prostitute being hunted from place to place by the law, or else preyed upon by the hideous pack of underworld grafters. Until recently the prostitute has not been considered a subject worthy of scientific study with a view of solving the problem, and it still remains for society to lift the thick veil which has so long obscured the vision of the herd—surely a worthwhile problem for Mental Hygiene.

The Inebriate.—While it might be thought that Nation-wide prohibition may eliminate the inebriates, it is felt that for many years to come members of society will at times and in rather large numbers become anti-social from over-indulgence in alcoholic stimulants. Here again we are dealing with a complex concept and a survey of the group shows its membership consisting of feeble-minded, psychopaths, psycho-neurotics and epileptics. Frequently there is evident an organic inferiority or a personality defect, the individual seeking relief from an inherent weakness, either realized or unconscious, in the use of habit-producing drugs, which take them away for a while, at least, from reality, removing personal responsibility to the demands of society.

The drug habitue furnishes the same problem, and this group demands analysis, study, classification and treatment by those engaged in solving the problem of Mental Hygiene.

The Vagrant.—A vagrant has been defined as an idle loafer, a stroller, a tramp, and it is estimated that there are 500,000 in the United States, an army of nomadic, shiftless, homeless unfortunates. No systematic attempt has ever been made in this country to investigate the causes and outline a treatment for this very evident social abnormality. The only statistics available are from a survey made by Dr. Amos T. Baker in 1920, at the Westchester Penitentiary, in the State of New York. Dr. Baker carefully analyzed at two different periods during the winter and spring months, groups of these wanderers as they passed through this institution. Their ages ranged from 19 to 70, 56 per cent being under 40. Seventy per cent were single, 6 per cent married, and the others were either separated or divorced from their wives. As to education, 20 per cent had none, 28 per cent could barely read and write, and 50 per cent reported having had from three to eight years' schooling. All were recidivists in the true sense of the word, showing that they had been committed for vagrancy from one to twenty-three times during their careers on the road, and most of them looked upon committment as a blessing, especially during the cold, winter months. Psychological examination showed 14 per cent to be feebleminded, 2 per cent borderline cases, 28 per cent frankly psychotic, of the dementia praecox type, 2 per cent psychopathic, 2 per cent drug habitues, 16 per cent chronic alcoholics, 14 per cent senile deterioration, and 22 per cent could not be classified as having mental disease.

Just a word on the subject of Social Hygiene, which deals largely with venereal prophylaxis. While this may rightly be considered a problem of Mental Hygiene, it is being attacked very vigorously from another angle. However, it seems desirable to quote one statement from Horatio N. Pollock, Statistician for New York State. In 1917 there were in the institutions of New York State 1,554 patients classified as suffering from syphilitic mental disease. The cost of maintenance in these institutions per year for this group was $471,918.72. Estimating the economic loss to the community of each male removed from an earning capacity at $500 per year, and for the female $200 per year, it is found that the males of this group show a loss of earnings amounting to $4,652,942.35, while the loss of earnings of the females amounted to $273,783.92. Thus it is seen that 1,554 patients, the end results of syphilis, in one state of the Union, cause a loss to the society of that state of over five million dollars.

In general, the problem of Mental Hygiene consists of the efforts of the 80 per cent of mentally

normal individuals to improve the conditions of the 20 per cent of the mentally sick members of the herd, at the same time preserving their own mental health, and by instituting broad preventive measures, insure an immunity to future generations from the many social plagues with which the herd is now inflicted.

WHAT HAS BEEN ACCOMPLISHED IN MENTAL HYGIENE.

Gradual improvement in the care of the mentally sick has been shown in this country for a period of about 100 years, the Quakers having first introduced the idea of kindness from the improved methods used in England. The efforts of Dorothea L. Dix have already been mentioned, but the autobiography of Clifford W. Beers, entitled "A Mind That Found Itself," published in New York in 1913, was so vivid as to attract the attention of a group of influential men and women in this country, resulting in the formation of the National Committee for Mental Hygiene. This movement, sponsored so generously by Mr. Henry Phipps, Mrs. Elizabeth Anderson, Mrs. William K. Vanderbilt and others, and more recently on a larger scale by the Rockefeller Foundation, has resulted in a campaign for Mental Hygiene, which is now everywhere showing results.

The campaign, as outlined by Dr. L. F. Barker several years ago, consists of a continuous effort directed toward conserving and improving the minds of the people, a systematic attempt to secure human brains so naturally endowed and nurtured that people will feel better, think better and act better than they do now.

In the last copy of the official journal of the committee, its general purposes are outlined as follows: "The National Committee for Mental Hygiene and its affiliated state societies and committees are organized to work for the conservation of mental health; to help prevent nervous and mental disorders, and mental defect; to help raise the standards of care and treatment for those suffering from any of these disorders; to secure and disseminate reliable information on these subjects, and also on mental factors involved in problems relating to industry, education, delinquency, dependency, and the like; to aid ex-service men, disabled in the war; to co-operate with Federal, State, and local agencies, and with officials, and with public and private agencies whose work is in any way related to that of a society or committee for Mental Hygiene."

The organization seeks to accomplish its purpose by means of education, energetic psychiatric social service, conducting surveys, promoting legislation, and by thoroughly co-operating with the many agencies whose work touches at one point or another the field of Mental Hygiene.

Besides the National Committee for Mental Hygiene, there are 22 state organizations in this country, and a national organization in Canada. Within the past two years, there has been organized a very active Mental Hygiene Committee in France (Dr. Toulouse is the spirit back of this organization), another in Belgium, one in South Africa, and one is being perfected in England. Some of the things accomplished are the preparation of a summary of the laws relating to the care and commitment of the insane in the several states. A directory has been prepared showing existing institutions in the United States for the care and treatment of the insane, feeble-minded, the epileptics and the inebriates, and others are being prepared to cover the many penal institutions of the country. Detailed information has been collected and filed regarding these institutions, and the state boards in authority over them. Data has been collected regarding psychiatric criminals, the teaching of psychiatry in the medical schools, and the treatment afforded cases of mental disease and mental deficiency.

A central library has been established in New York City in which books and pamphlets relating to Mental Hygiene, Psychiatry, Neurology, Psychology and allied subjects, have been assembled and catalogued.

Deficiency and insane surveys have been made in Colorado (insane), Connecticut (insane), Georgia (mental deficiency), Cook County, Illinois (both), Springfield, Illinois (both), Indiana (both), Kentucky (mental deficiency), Maine (mental deficiency), Maryland (mental hygiene), Mississippi (mental deficiency), Missouri (both), Nassau County, New York (both), Scranton, Pa. (insane); Cleveland, Ohio (both); Tennessee (both), Texas (insane), West Virginia (mental deficiency), Wisconsin (mental deficiency), Philadelphia, Pa. (mental deficiency); Cleveland, Ohio (mental deficiency); South Carolina (insane), California (insane), New Jersey (insane), Louisiana (insane), North Carolina (insane), Alabama (mental deficiency). The cost of these surveys has been met by an appropriation from the Rockefeller Foundation.

Prison surveys have also been made and the results published and broadly circulated to demonstrate the practical value of scientific intensive studies in the psychology of crime. A Bureau of Statistics has been established by which it is now possible to obtain uniform statistics concerning mental diseases throughout the whole United States.

No effort of the National Committee for Mental Hygiene stands out more prominently than does the assistance given to the United States Government during the war. A division of Neurology and Psychiatry in the Medical Corps of the U. S. Army was established, and during the emergency over 700 psychiatrists, each passed upon by the National Committee, were assigned to the work of eliminating from military service those who were unfit mentally or nervously, and later caring for those members of the U. S. forces who during the war developed nervous or mental disease. Later the work of reconstruction was taken up, so that these unfortunates might be returned to civil life and again be able to take their places in society. The work of the Psychiatric section of the Army reflects the greatest credit on Medical Director Dr. Thomas W. Salmon of the National Committee for Mental Hygiene. Thousands of men afflicted with so-called "shell-shock" were treated by army psychiatrists directly in the rear of the front lines, and by far the larger percentage of these were quickly returned to full duty status. The psychiatric work in the camps of this country eliminated over 70,000 men suffering from nervous and mental diseases, who were manifestly unfit to go overseas. These men had already been passed on by draft boards in all parts of the country, but, naturally, had not been seen by men specially trained in neuro-psychiatric work.

Another important work done by the National Committee has been to educate the public. The ignorance which exists among presumably well-educated people regarding the subject of mental hygiene is amazing and deplorable. To overcome this, pamphlets and reports have been circulated, and since 1917 a quarterly magazine entitled "Mental Hygiene," has been published and distributed widely to physicians, lawyers, clergymen, educators, public officials and students of social problems. Mental Hygiene exhibits have been shown in a number of cities and featured by suitable speakers, together with newspaper and magazine publicity. Appeals at different times have been made to committees in Congress and the officers of the Federal Government, including the President himself. In 1914 a National convention for Mental Hygiene societies was held in Bal-

timore, a similar one in New Orleans in 1916, and one in New York in 1920.

Other agencies are working, notably the large state hospitals, many of which now have out-patient clinics to which people may come voluntarily with their mental problems. To illustrate the worth of these clinics, a brief summary of the work done at one out-patient department will be interesting. During the year ending October 1st, 1919, the psychopathic out-patient clinic of the Boston State Hospital treated 1,577 patients, of which 892 were adults, 271 adolescent, 401 were children, and 13 infants. Of these, 301 came on their own initiative, the others being referred by courts, schools, hospitals, physicians or social agencies. The problems presented included mental conditions of adult offenders, juvenile delinquents, sex offenders, unmarried mothers, backward children, unemployed persons, alcoholics, children to be adopted, etc. Other cases covered syphilis, epilepsy, cholera, psychoneurosis, hysteria, speech defects and the after care of patients discharged from mental hospitals. Receiving stations, called psychopathic hospitals, have been established in several cities, these acting as clearing houses for the community, the patients sometimes remaining a short time for observation and treatment, others possibly being sent to state hospitals, while many are returned to their homes to be continued under treatment as out-patients.

A most interesting accomplishment in advancing Mental Hygiene was the course of study in psychiatric social service established at Smith College, Northampton, Mass., during the summer of 1918. This course was given under war-time stress to some 70 women, mainly graduates of women's colleges. They came from 20 different states, and many had had previous social experience. The course consisted of eight weeks of lectures, followed by six months of practical work in Boston, New York, Philadelphia and Baltimore. Many of these women found positions in army psychiatric hospitals, and I can personally attest to their usefulness and to the worth of their intensive training at Smith College. Since then other courses of study have been instituted, not only at Smith, but at other colleges. The supply of graduates is wholly inadequate at this time to meet the demands for trained psychiatric social service workers.

Much has been accomplished in the education of mental defectives, and at the present time all but five states have made special provision for aiding this large, helpless class of dependents. The progress in the work, however, has been exceedingly slow, the public for a long time feeling it a hopeless task, dealing with an incurable condition. The publication of studies made of such families as the Jukes and the Kallikaks, made the public realize the social menace of feeble-mindedness. Reports from state prisons, workhouses, jails and courts, shortly followed, telling of the large number of feeble-minded with which these agencies were dealing. To segregate all the feeble-minded is well nigh impossible, and Fernald shows that by recognizing these defects in the young and instituting early training, especially guiding them through early adolescence, the defective in many cases may be fitted for useful service in a community. Education of this class naturally deals but little with academic subjects. It is claimed that not a single defective grading seven years or less by the Binet scale, was ever observed to read. However, the sensory apparatus of the brain may be trained by slowly, patiently applying kindergarten methods. For example, games are taught, ball throwing, marching and clapping of hands at given signals. In sense work, the child is taught the use of an object and later its name. Thus it associates sugar with candy, and the sound of the bell with dinner. Color sense is taught with colored blocks, which the child matches first with pieces of cloth, then with various objects in the room. They are taught to dress themselves, to lace their shoes, etc. Instructions are given in carrying wood and piling it neatly, the use of shovel and hoe, and finally planting and the care of the garden.

Dr. Cobb of the Syracuse State Hospital (New York), declares the problem to be an adaptation of many methods, plus practice to the n'th degree. Are those efforts worth while? Fernald says, in speaking of discharged male defectives: "In quite a percentage their weekly wages ranged from $8 to $30. One has become a sign painter, another has saved $2,000, and another bought a home. Among the females, in 176 discharged cases, 27 had married and were doing well, 8 were unmarried but were self-supporting, 32 were living at home doing well, but requiring some supervision." It has been shown that there are good defectives and bad defectives, and that many feeble-minded individuals possess very definite community value if properly trained. Indeed, it has been proven beyond a doubt that the effort pays, bringing large dividends to society.

Considerable has been accomplished in the mental hygiene of the criminal group during the past 50 years, largely through the efforts of the American Prison Association. Most of the states now segregate the insane, feeble-minded or epileptic criminal. The parole system is very generally used with juvenile offenders, and an indeterminate sentence is the rule. Housing conditions have been greatly improved, and the physical and mental welfare of prisoners is much more carefully guarded.

Recently there has been organized a Division on prevention of Delinquency, financed by a special appropriation from the Commonwealth Fund. The first work undertaken has been the organizing of traveling psychiatric clinics for juvenile courts, the staff of which consists of a psychiatrist, psychologist, and a psychiatric social worker. On invitation, the clinic sets up in a juvenile court and serves as a clinic to the court for a period of 6 or 8 months. It is hoped that in that time the value of the clinic will be demonstrated to the court. The clinic will then move to another city for similar demonstrations, leaving in the first city an organized, operating clinic. The first to be established was at St. Louis and it is most encouraging to note that some fifty other cities have applied for this service.

Other agencies, such as child welfare and community organizations, together with many community clubs, have accomplished much for mental hygiene, in the way of public playgrounds, more and better parks, community concerts, better housing of employes, recreation rooms in factories, etc., etc.

The venereal problem has been attacked vigorously and it is felt that much has been accomplished, especially since 1917.

From many angles the conflict has been waged and it is manifest that the worth of mental hygiene to society is now firmly established, the subject rightly becoming an important branch of social and medical science.

HOW TO FURTHER ADVANCE MENTAL HYGIENE.

It would seem that through education of the public lies the proper course for further progress in mental hygiene. A most significant gain has been accomplished during the past fifteen years and by means of surveys in many fields, the vantage points of attack have been discovered. For example, it has been found that practically none of the normal schools give thorough systematic courses in mental hygiene, and it seems quite logical to start work at this point. First instruct teachers, especially those

who may instruct the 20,000,000 pupils of the lower schools.

It seems a self-evident fact that the healthful development, both mental and physical, of children should take precedence over anything else. The one great aim of education in the early years, to which everything else must yield, is the development of the habits of health; and in the training and instruction of every school teacher should be given the clear realization of the great truth, put years ago by G. Stanley Hall, in the question, "What shall it profit a child if he gain the whole world of knowledge and lose his own health?"

Not alone should the normal school teacher be trained in mental hygiene, but also the students in colleges—literary, medical, divinity and law—thus better fitting men and women for their adjustment to society as they graduate. It has been estimated that 25 per cent of college graduates within ten years show signs of neurotic, psychoneurotic or psychotic reactions. It is quite possible that a broad training in mental hygiene would make for the better mental health of the college graduate, and it would surely better equip him to understand social problems and thus aid in solving them.

Nowhere is a better knowledge of mental hygiene more needed than among physicians in general, for outside of some 1,500 psychiatrists, most of the one hundred and fifty thousand doctors of this country manifest a decided lack of interest in mental problems, amounting in many cases to actual repugnance.

The graduate minister, always a student of human behavior, and an instructor to society in ethical conduct, most certainly can better serve and benefit mankind by having a knowledge of and applying constantly the principles of mental hygiene in his daily work.

The graduate of a college of law who has a thorough knowledge of the principles of mental hygiene, will be better able to serve society, for his work offers endless examples of abnormal behavior reactions, every one of which can be explained and many of them corrected by the application of the knowledge obtained in the study of Mental Hygiene. Later the lawyer may be called upon to fill judicial positions. At present it is quite evident that many judicial decisions are made without any special knowledge of mental hygiene.

The mental hygiene movement has recently acquired new impetus through the increase of governmental facilities. While a number of studies had been undertaken previously, during the past two years the Marine Hospital Division of the United States Public Health Service, has established a Neuro-Psychiatric Section, and already eleven hospitals are in operation, caring for several thousand ex-service men suffering with nervous or mental disease. It would seem that eventually these Federal hospitals might aid in the conservation of the mental health of the public at large by becoming centers for the conservation of mental health.

State and city health boards might well add mental hygiene to the list of agencies which they employ to conserve the health of the citizens. It is to be noted at present that but few of these public services even consider mental health. For example, a recent report of the Detroit Health Department Service lists the following divisions: Communicable Diseases, Vital Statistics, Dental Division, Bureau of Sanitary Engineering, Bureau of Food Inspection, Bureau of Records, Venereal Division, Tuberculosis Division, Child Welfare Division, Eye, Ear, Nose and Throat Clinic, Crippled Children's Clinic, Contagious Disease Hospital and Tuberculosis Hospital. It is safe to say that abnormal mental and social problems are constantly found in all of these departments, and surely a bureau dealing with mental health would be of great service.

Recently an inquiry was made to the secretary of a State Board of Health for a copy of the laws regulating commitment and care of insane patients. The reply revealed the fact that there was no Commission on Mental Diseases and no compilation of the statute laws relating to the subject.

Not only in the schools from the lowest grade to the collegiate group should mental hygiene be taught, but also the mother and father in the home should be instructed, in order that they might begin the preparation of mental training of the infant just born. Indeed, we might properly say, before birth. To furnish parents with this knowledge, the many women's clubs might properly be the agencies, for they are in a position to get very near to mothers. The community nurse can be made of greater worth by a working knowledge of mental hygiene which she might apply in her daily round.

The simple principles of mental hygiene are frequently neglected by parents, because they are so familiar. These principles may be stated as follows:

1. Children should be given opportunity for normal reaction to their natural instincts and impulses to be active in play and in work; to sleep at need, to express their emotions, not only to express themselves, but to serve others and co-operate with them.

2. Children should be trained to control their activities and impulses. Natural and helpful control is not by repression and direct inhibition, but rather by indirect control, by furnishing a healthful form of activity that may take the place of an unwholesome activity.

3. Children should be taught to concentrate attention on the one thing in hand. They naturally do this, and this tendency should be encouraged by short periods of study and complete attention for the time being to anything undertaken. In the moral and emotional training children should be taught to live one day at a time, to settle their moral accounts each night, never to hold a grudge, and to look upon each morning as a new day in which to improve.

4. Tasks given should be simple and definite, instructions clear and concrete, and decisions and actions straightforward and wholehearted.

5. In the face of difficulties, worry, fear and rage children especially need a friendly guiding hand, and these periods are opportunities for most important training.

6. To bring about normal social relations for a child it is better for his mental health that he eat and plays, and works and studies with other children rather than with adults. An only child in a family should be given special attention in this matter.

7. A normal sense of dependence should be encouraged, and the adult duty here is largely negative. For usually if not tampered with, the child develops first a dependence on his own parents, and later dependence on something higher, on the Supreme Being, the beneficent laws of nature, the indebatable laws of authority, or one's own sense of honor.

Such are some of the fundamental teachings of mental hygiene. If we attempt to give the feeble minded and mentally sick the benefit of them, surely the normal child should be given the same mental training.

Why should there not be mental clinics in all general hospitals, to which people might go with their mental as well as physical ailments? It has been stated that in one large city in this country any form of disease may be treated in the hospitals of the city except mental disease. For the mentally sick of this city there is no place but a state hospital, into which the patient cannot go until a relative has made a

affidavit that the patient is dangerous to life, person or property; a warrant must be issued, the patient must be placed under arrest, detained under the care of a sheriff for 24 hours, tried in open court by a judge of the superior court, and taken to the hospital by a deputy sheriff. Is it not appalling, this glaring, abusive, humiliating treatment of a sick human being, sick of a disease causing more suffering to himself and his relatives than almost any physical ailment we might name?

By promoting eugenics with as careful and scientific methods as are supplied in the breeding of plants and animals, we may hope to advance the mental health of the race. Recently, in Missouri, $40,000 was paid for a hog. As food in the form of pork this hog was worth $50.00; $39,950 represented the worth of the careful and scientific methods of breeding the antecedents of this animal.

By enlightened public sentiment and by better marriage laws, something can be done to lessen the reproduction of the unfit. Marriages of persons with marked mental abnormalities should be entirely eliminated. To prevent the marriage of normal persons with those having a neuropathic taint, more knowledge of family stocks must be made available. To provide this information eugenic bureaus might be established in towns and cities, to collect and record data which may be available to interested parties. Love may be blind, but few normal persons would be rash enough to knowingly join their fortunes with neuropathic or degenerate families.

It is shown that 50 per cent of the feeble-minded in Canada are foreign-born, as are also 48 per cent of the patients in the mental hospitals of New York State. It is quite evident that while the present excellent methods of mental examination of immigrants tend to restrict the admission of undesirable mental stock into this country, the deportation laws are not always enforced. Many potentials will get by the most careful mental examiner, but these are later found in state institutions. This danger might be eliminated by a modified deportation law which, instead of being limited by a five-years' residence, would make it possible to send out of this country any person who becomes a public charge by reason of mental defect or disease developing at any time prior to gaining citizenship. Such a law, properly enforced, would lessen to a marked degree the expensive problem of caring for a large and most undesirable European residual group.

The question will naturally be asked, "Just how may I personally become better informed about Mental Hygiene; how may I apply its teachings to myself and to others?" The answer is, first, subscribe to the *Journal of Mental Hygiene;* second, read some or all of the following books, which are free from technicalities: "What Men Live By"—Richard Cabot; "How to Live"—Fisher; "The Principles of Mental Hygiene"—William A. White; "Psychology in Daily Life"—Seashore; "Psychology and the Day's Work"—Swift; "Psychology of Every Day Life"—Drever; "Hygiene of the Mind"—Clouston; "The New Psychology and the Teacher"—Miller; "The Mind That Found Itself"—Beers; "Why Worry"—Walton; "Those Nerves"—Walton, and "Psychology of Insanity"—Bernard Hart.

Visit on every possible occasion mental hospitals and other institutions caring for the submerged types, and on those visits not only observe the patients, but also talk and encourage those who are engaged in the care of these unfortunates. Encourage all welfare movements, community playgrounds, public concerts, etc. Support the Boy Scout and the Girl Scout movements, for both give wonderful mental training. Support the public schools and churches, for here, too, normal mentality is developed. Oppose jazz music, and support good music, for the one is mental poison and the other mental food. Fight to the last ditch the battle against alcohol and drugs, and support the campaign against venereal disease, always keeping in mind the tremendous amount of mental trouble caused by alcohol and syphilis.

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MISCELLANEOUS

STOLEN.

Dr. F. H. Kliefoth, 550 E. French Place, San Antonio, Texas, wishes to notify physicians in the state that a McKesson Portable Gas Oxygen Machine, No. G, 1338, was stolen from his car on February 20, Any information concerning this machine will be greatly appreciated by him and he requests that same be wired at his expense.

A FLANK ATTACK.

The following description of an appendicitis operation is taken from a letter written by the patient, a young lady school teacher, to her parents, shortly after the close of the war, while military matters were prominently in mind:

"I am just out of the hospital, where I spent some time recovering from wounds received in an encounter with 'the enemy.'

"For some time the enemy had been making little advances," but their attacks were so slight as to pass almost unnoticed. About two weeks ago, however, I felt that conditions were growing more serious, and just at that time the enemy launched a heavy attack, causing us some trouble along our right flank, and considerable uneasiness.

"A council was held on our side, and calling out our reserve force, we were put under command of Colonel R——. After reconnoitering for twenty-four hours, he decided to open up operations before the enemy had time to burst upon us. He immediately ordered a heavy barrage of gas to be sent over, and donning gas masks, our forces set to work. Our men cut their way through to the enemy's regions and pen-

etrated their entrenchments. The encounter was sharp, though met with little resistance, and in thirty-five minutes after beginning operations we had bottled up the enemy, and were mopping up the territory round about.

"We suffered no actual loss of life during the operation, and there were no seriously wounded. Owing to a leaky gas mask, I inhaled a large quantity of the poisonous ether. That and a severe bayonet thrust took the fight out of me early in the game, and caused me to be laid up in the hospital for ten days. My wound is about healed and is of little importance, though I will probably carry the scar through life.

"Anyway, it is worth it to know that the enemy is bottled up, and so tightly sealed that escape is impossible. Their fighting spirit is entirely and forever broken, and we need never fear another attack."

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES.

Potassium Bismuth Tartrate-D. R. L.—A basic potassium bismuth tartrate containing from 64 to 69 per cent. of bismuth. For a discussion of the actions and uses see Bismuth Preparations in the Treatment of Syphilis (*Journal A. M. A.*, August 25, 1923, p. 661). Potassium bismuth tartrate-D. R. L. is supplied only in the following forms: Ampules potassium bismuth tartrate with butyn-D. R. L., 0.1 Gm. (containing potassium bismuth tartrate-D. R. L., .01 Gm. suspended in 2 Cc. of a 0.6 per cent. solution of butyn in a fixed oil); ampules potassium bismuth tartrate with butyn-D. R. L., 0.2 Gm. (containing potassium bismuth tartrate-D. R. L. 0.2 Gm. suspended in 2 Cc. of a 0.6 per cent. solution of butyn in a fixed oil). The product is administered intramuscularly. The Abbott Laboratories, Chicago.

Scarlet Red Sulphonate.—The sodium salt of azobenzene-disulphonic-acid-azobetanaphthol. The actions and uses of scarlet red sulphonate are essentially the same as those of scarlet R medicinal, Biebrich (see New and Nonofficial Remedies, 1923, p. 275). It is marketed only in the following forms: Scarlet red emulsion, 4 per cent.-P. D. & Co., scarlet red ointment, 5 per cent.-P. D. & Co., scarlet red ointment, 10 per cent.-P. D. & Co. Parke, Davis & Co., Detroit.—*Jour. A. M. A.*, January 19, 1924.

Ergot Aseptic.—A liquid extract of ergot containing the soluble constituents of the drug. It is standardized biologically so that 1 Cc. represents 2 Gm. of ergot. The actions and uses of ergot aseptic are the same as those of ergot. The dose is 1 to 2 Cc. injected intramuscularly. Ergot aseptic is marketed only in 1 Cc. ampules. Parke, Davis & Co., Detroit.

Loeflund's Malt Soup Stock (Dr. Keller's Formula).—A preparation essentially similar to extract of malt U. S. P., but containing a small amount of potassium carbonate. Loeflund's malt soup stock is designed for use in preparing the malt soup of Dr. Keller. Britt, Loeffler and Weil, New York.—*Jour. A. M. A.*, January 26, 1924.

PROPAGANDA FOR REFORM.

Intarvin.—Because of numerous inquiries, the Council on Pharmacy and Chemistry publishes a preliminary report on Intarvin. The product is marketed by the Intarvin Company, Long Island City, N. Y. Dr. Max Kahn has applied for a patent on it. Many statements have been given the lay press by those interested in the promotion of Intarvin, but as yet no publication has appeared in the medical press, except preliminary reports by Kahn. Intarvin is proposed for use in diabetes or in conditions where acidosis occurs. It is a synthetic fat which, it is claimed, can be assimilated by the diabetic without the production of products that cause acidosis, as is the case with ordinary fats when these are consumed by diabetics. Intarvin is stated to be the glyceryl ester of margaric acid, admixed with ten to twelve per cent. of liquid petrolatum. While the usefulness of Intarvin is curtailed by the discovery of insulin, it should be valuable in planning a diabetic diet if the claims made for it are substantiated. Intarvin is still in the experimental stage and it is unfortunate that so much newspaper notoriety has been given it. Until acceptable evidence is available for its usefulness, palatibility and practicability, judgment of its worth must be suspended.—*Jour. A. M. A.*, January 5, 1924.

Firma-Chloro.—Firma-Chloro is marketed by the Chloro Chemical Corporation. According to the label it is a mixture of chlorinated lime, tincture of iodin, picric acid, potassium chlorate, sodium bicarbonate and glycerin, but the amounts of the ingredients are not declared. The preparation is claimed to be a powerful chlorinated disinfectant. It is alkaline in reaction, hence the iodin which is claimed to be present would be converted to sodium iodid and sodium iodate. Altogether, the claimed formula is an impossible one. Firma-Chloro is another example of an irrational antiseptic. The favorite method of introducing Firma-Chloro is much like that used for "Oil of Salt" (which the A. M. A. Chemical Laboratory found to be essentially a mixture of linseed oil and essential oils, including turpentine, camphor and sassafras), namely, sending letters to manufacturing plants importuning them to have the product used in the first aid or medical department.—*Jour. A. M. A.*, January 5, 1924.

Chemical Foundation Wins.—During the late war, our government seized many German patents on synthetic drugs. Later the Alien Property Custodian, on executive order of President Wilson, sold 4,700 German chemical patents to the Chemical Foundation, Inc. This corporation agreed in turn to license any American firm that could present evidence of reliability in chemical manufacture to manufacture under these patents. As a result of this action, physicians may today obtain different brands of arsphenamin instead of one proprietary "Salvarsan"—and at competitive prices. The same is true of other useful synthetics. About a year and a half ago, President Harding instructed the Alien Property Custodian to take steps to secure the return of all patents sold to the Chemical Foundation, Inc., on the grounds that the price paid was inadequate and the transaction illegal. Suit was instituted by the government against the Chemical Foundation, Inc., for the recovery of the patents. The suit was won by the Chemical Foundation, Inc. In the decision of the court, it was held that the price was adequate, for the reason that many of the patents were nonworkable, and that, therefore, because of the financial risk and hazard, the value of the patents "was too slight and problematical to warrant the payment by American citizens of a sum even remotely approximating what they might have been worth to the German owners for their monopolistic purposes." Hence, the bill of complaints filed by the government was set aside.—*Jour. A. M. A.*, January 12, 1924.

Effect of Bromids on Epilepsy.—The harmful effects of the prolonged administration of bromids aside from the skin and intestinal effects, are gradually increasing dullness, heaviness, torpor, stupidity, with greater self-centering of interests and unintelligence. The size of the dose that is necessary to control the fits is probably an important factor in determining the amount of damage that will be done.—*Jour. A. M. A.*, January 26, 1924.

NEWS

Surgeon General Hugh S. Cumming of the United States Public Health Service, has been elected one of the vice-presidents of the permanent health organization of the League of Nations, which recently held its first meeting since its amalgamation with the international public health office in Paris.

The Woman's Auxiliary to the State Medical Association of Texas will meet in San Antonio during the regular session of the Association. The Executive Board of the Auxiliary will meet at 10:00 a. m., April 28. The following morning, at the same hour, the business session will be held at the hotel headquarters. A good attendance is anticipated.

New Orleans Meeting of the Southern Medical Association will be held November 24-27, both dates inclusive. This is a change in the usual time of meeting, made necessary by conflicting conventions. Dr. Homer Dupuy, of New Orleans, is chairman of the Entertainment Committee. Mr. C. P. Loranz, Empire Bldg., Birmingham, Alabama, is secretary of the association.

The American Congress on Internal Medicine elected the following officers at the recent annual session, held in St. Louis: President, Dr. Wm. G. Morgan, Washington, D. C.; first vice-president, Dr. Leonard V. Murray, Toronto, Ontario; second vice-president, Dr. Roy Snowden, Pittsburgh, Pa.; secretary-general, Dr. Frank Smithies, Chicago; treasurer, Dr. Clement R. Jones, Pittsburgh, Pa.

Argentina Attacks Quacks.—The police have started an energetic campaign against many irregular practitioners of medicine in the Argentine, who, by advertisements of "marvelous" curative treatments for diseases, carried on a lucrative and fraudulent business. Many deaths have been proved to be caused by the intervention of these quacks, in whom the peasant people trust for relief.—*Jour. A. M. A.*

Physicians in Sixty-Eighth Congress.—The Sixty-eighth Congress of the United States which convened December 3, includes among its members seven physicians. In the Senate is Dr. Royal S. Copeland, former health officer of New York City; Dr. Lewis H. Ball of Delaware, and Dr. Selden Palmer Spencer of Missouri. Physicians in the House include Dr. Ladislas Lazaro of New Mexico; Dr. John J. Kindred of New York; Dr. Charles Browne of New Jersey, and Dr. John William Summers of Washington.—*Jour. A. M. A.*

Grant for Scientific Research.—The trustees of the American Medical Association have made an appropriation of $2,000 to further promising research in problems relating to scientific medicine and of practical interest to the medical profession, which otherwise could not be carried on to completion. Applications for small grants should be sent to the Committee on Scientific Research, American Medical Association 535 North Dearborn Street, Chicago, before March 10, 1924, when action will be taken on the applications at hand.—*Jour. A. M. A.*

Civil Service Wants Doctors for the Indian Service, Coast and Geodetic Survey, Panama Canal Service, Field work in the U. S. Public Health Service and medical internes in psychiatric hospitals. The pay ranges from $1,200 per year and maintenance to $4,250 per year, with the $20.00 per month bonus granted by Congress, in addition. Those interested should correspond with the United States Civil Service Commission, Washington, D. C., or application may be made to the secretary of the customhouse in any city. Necessary blanks will be furnished for application, upon personal or written solicitation.

Western Electrotherapeutic Association will meet in Kansas City, Mo., April 17, 18, under the presidency of Dr. Harry H. Bowing of Rochester, Minnesota. The medical profession of nearby states is invited to attend. On the evening of April 15, there will be a joint meeting of this organization with the Jackson County Medical Society, and the Western School of Physiotherapy will hold its sixth annual session April 14-18. There will be an elaborate exhibit of physiotherapeutic apparatus in connection with the meeting of the Electrotherapeutic Association. Dr. Charles Wood Fassett, 115 East 31st St., Kansas City, Missouri, is secretary.

Surgeon-General Cumming Reappointed. — The President has sent to the Senate the nomination of Dr. Hugh S. Cumming for reappointment as Surgeon-General of the U. S. Public Health Service. It is understood at the White House that the nomination will be promptly confirmed. The appointment is made in accordance with the usual custom of honoring the head of the service with two terms, and is a recognition of the services of Dr. Cumming and of his administration during the last four years. It is understood that the reappointment of Dr. Cumming was indorsed by the President-Elect, the President and many former Presidents of the American Medical Association.—*Jour. A. M. A.*

The Peace Award Referendum, referred to editorially in our January number, appears to be very much in favor of the plan selected. Up to February 15, there had been a total of 514,318 votes cast, of which, 64,750 were against the plan and 449,568 for it. In percentage terms, this is 13 to 87. Texas is credited with 11,384 votes, of which 1,290 are against the plan and 10,094 for it. In no single state has there been anything like an even race. In fact, the proportion here noted runs practically throughout. Where there is a marked difference in this ratio, there seems to be no particular reason for it. The vote is still being taken. A ballot will be found on ad page 6 of the January JOURNAL.

Pharmacopeial Standards for Medicinal Spirits.—Two additional titles to those already announced for admission to the U. S. Pharmacopeia, tenth revision, are standards for whisky and brandy as medicines, in response to a demand by physicians. All physicians of the general revision committee, acting as a subcommittee, were appointed to study the situation and take necessary action. The following statement was issued: "In view of the fact that a large number of physicians in the United States believe alcohol to be a valuable therapeutic agent, and in view of the widespread adulteration of the alcoholic liquors at present available, the members of this reference committee feel that for the protection of the public, there should be an official standard for medicinal spirits."—*Jour. A. M. A.*

Accidents from Zinc Stearate Baby Powders.—At the San Francisco session of the American Medical Association, a resolution was adopted by the House of Delegates asking that steps be taken whereby the hazard to infant life from accidental inhalation of zinc stearate powders may be mitigated. Accordingly, the Board of Trustees has appointed a committee to investigate the matter and to report at the 1924 session. The committee is desirous of obtaining reports of injuries or deaths arising out of the household use of dusting powders of all kinds. The committee will appreciate it, therefore, if physicians will send in brief reports of such cases, including the age of the patient, the name of the dusting powder, and whether or not the powder contained zinc stearate. Communications should be addressed to Committee on Zinc Stearate Powders, American Medical Association, 535 North Dearborn Street, Chicago.—*Jour. A. M. A.*

The Committee of Arrangements for the seventy-fifth annual session of the American Medical Association, to be held in Chicago, June 9-13, 1924, consists of: Chairman, J. W. Van Derslice; treasurer, John S. Nagel; secretary, Hugh N. MacKechnie, and Isaac A. Abt, Archibald Church, D. J. Davis, Ludvig Hektoen, C. E. Humiston, Frank Morton and J. H. Walsh. Mrs. Charles Spencer Williamson will serve as chairman of the Ladies' Entertainment Committee. The office of the Local Committee of Arrangements is located in Room 1522, Marshall Field Annex, 25 East Washington Street, Chicago. This committee is ready to extend any assistance within its power to physicians who expect to attend the Chicago session. The committee has held a number of meetings, and great progress has been made in arranging the important details of the session. The committee may be addressed as indicated above by any who desire information.—*Jour. A. M. A.*

Reduced Rates to Annual Session, A. M. A.—The passenger associations of various sections of the United States have established a rate of one and one-half fare, for the benefit of those who will attend the seventy-fifth annual session of the American Medical Association. The benefit of this rate will be extended to members of the Association and to members of their families who accompany them to Chicago. It will be necessary to purchase tickets to Chicago, paying the regular fare. At the time tickets are purchased, certificates must be secured from the railroad agents. These certificates must be validated by the Secretary of the Association and by railroad representatives at Chicago. After validation, the certificates will entitle holders to a rate of one-half fare for the return trip to their homes. Tickets for the occasion will be placed on sale in the extreme far western states not later than June 3; in territory nearer to Chicago, the dates of sale will be adjusted in accordance with distances to be traveled.—*Jour. A. M. A.*

SOCIETY NEWS

Bell County Medical Society reports the following officers elected for the ensuing year: President, Dr. W. H. Smith, Heidenheimer; vice-president, Dr. C. H. Hamblen, Holland; secretary-treasurer, Dr. Edgar R. Boren, Belton; censor, Dr. Taylor Hudson, Belton; delegate, Dr. J. M. Frazier, Belton; alternate, Dr. J. S. McCelvey, Temple.

Bexar County Medical Society met January 31, with 50 members and 3 visitors in attendance.

No scientific program had been prepared. Judge George B. Taliaferro, upon invitation, addressed the society on the subject of "Finances." He said in part that it is true that the doctor is too busy to pay much attention to financial matters, and should, therefore, consult those who do have the time and the inclination to investigate such matters. He explained the attitude that the average Congressman has toward taxing the income of the public, and expressed concern about the long land-loans that are being made by the Federal Land Banks. He is afraid that when these millions of dollars fall due, in from 15 to 30 years, there may be a general repudiation of these enormous sums of money.

A rising vote of appreciation was given the speaker.

Bexar County Medical Society met February 7, with 60 members and 15 visitors in attendance.

Dr. Paul O'Leary of the Mayo Clinic, was the speaker of the evening, his subject being "Tuberculosis of the Skin." Dr. O'Leary divided tuberculosis of the skin into that group in which the bacillus gains entrance from without; that in which this entrance is gained from within, as through the blo lymph, or by direct extension, and the group th might be called the toxic or para group, in wh these skin lesions are found in patients sufferi from pulmonary tuberculosis. He stated that t tubercular verrucosis cutis cases are very high contagious, and often have to be differentiated fr blastomycosis. The differentiation can always done by biopsy, and because of the fact th blastomycosis shows increased moisture and i fungating lesion, while verrucosis cutis is dry a characterized by a warty appearance. The latter a low grade inflammatory condition, while the form is a high grade inflammation. As an example the second group, he mentioned true lupus vulgar which is characterized by apple-jelly nodules. T nodules are best seen when pressure is made reduce the hyperemia. The condition advances the production of new nodules, and is most apt appear in people who have a sluggish circulatio This condition often has to be differentiated fr lues. Since arsenic will benefit lupus also, mercu should be used as a therapeutic test. Scrofuloderm he believed to be the most common type of tube culosis of the skin, usually resulting from tube culous adenopathy, ostetis, etc. It begins as a co abscess and breaks down, forming sinuses or ulce which must be differentiated from tertiary lues. T border of the luetic ulcer is made up of a series small, indistinct ulcers, while that of scrofuloderm is undermined, dirty and distinct. The luetic ulc heals progressively, and produces a soft, velve elastic scar, while that of scrofuloderma does n heal progressively and produces a hard, keloid ty of scar. The luetic ulcer has areas of healing, wh that of the scrofuloderma has no tendency to he

Erythema induratum, which is in group two the classification, is usually found in young wom of the blond type, and usually on the lower two-thir of the posterior aspect of the lower limbs. The nodules last from seven to ten day, and may i volute or ulcerate. Ulcers may be painful for se eral months, and recurrences in the spring and f are usual. The tubercle bacillus has been found these ulcers, which must be differentiated from va cose ulcers. The latter are associated with varico veins, are usually unilateral, and often have eo matous areas surrounding, which may even sugge elephantiasis. The ulcers of erythema induratu are not characterized by varicose veins, are bilater and result in atrophy instead of edema. The sca of these healed ulcers cannot be differentiated fr those which result from lues. The fourth type of t second group, the so-called sarcoids, were exhaus ively studied by Darier, in 1910, and he named the "miliary lipoids." This lesion starts as an isolat nodule on the hand, and has a purplish color. T third group is made up of those cutaneous lesio which occur in tuberculous or in tuberculous patien Lupus erythematosis is perhaps not a true tube culous lesion, as from 15 to 18 per cent. of the cas autopsied, have not shown tuberculosis of the oth organs. In lupus, the tubercle bacillus may be fou alone or in conjunction with other organisms, su as the streptococcus. It appears on the face, a secondarily on the scalp, ears and lips, but must n be confused with vulgaris. It is a scaly, red eruptic which is superficial and well defined, the sebaceo ducts being often plugged. Ulceration never occu and scarring is smooth and fine. Aside from a slig itching, there is no inconvenience.

There are two types of the disease, the disc and the disseminating. The latter often spreads ov a large surface of the body. Since there is leucopen elevation of temperature, prostration, etc., the d ease may be confused with typhoid. Deep *x*-r therapy can be used for the adenitis. The true tube

ulid is a necrotic papule that ulcerates in the enter. The tuberculid caseates and degenerates, while the pseudo-tuberculid is simply a nodular umor. The tubercle bacillus has been found. Focal nfection plays a great part, and attacks have cleared p following extraction of teeth, removal of tonsils, tc. It is common in the pads of the fingers and esponds to massive doses of arsenic.

Dr. I. L. McGlasson deplored the fact that there re over fifty different names for tuberculosis of the kin, and over fifty different treatments recommended. He stated that Dr. Finsen had reported on ,200 cases that had been treated with the Finsen ight. Of these, 60 per cent. were cured, 18 per cent. were still under treatment, 11 per cent. discharged s hopeless, and the remaining 11 per cent. had died. Some cases will clear up under radium, but either adium or *x*-ray may damage the skin as much as he original condition. Unfortunately, there are usually recurrences. Dr. McGlasson had noted good esults in one case, following a tonsillectomy. Some uthorities think that clearing up of focal infection nay result in cure, but the majority are not of this pinion. Pusey has used carbon dioxid snow to lestroy the apple-jelly nodules, but the cautery will lo this more effectively. The French advocate the se of tuberculin. The speaker emphasized what Dr. O'Leary had said regarding the use of arsenic as a therapeutic test, since there are many conditions hat are benefitted by arsenic, and besides, tuberculosis and lues may *both* be present. These patients nust have the same attention that the ordinary uberculous receive, since the treatment of the skin esion alone is not sufficient. He had noticed good esults from the use of mercury in scrofuloderma. Ordinarily, operative interference should not be hought of, but if it is necessary the cautery is preferable to the knife, as the latter may disseminate he condition. Tuberculosis specialists have agreed vith him that tuberculosis of the skin is seldom seen n this section, although a large number of tuberculous patients are being constantly treated here.

Dr. I. S. Kahn confirmed what Dr. McGlasson said elative to the rarity of the skin manifestations of uberculosis in this section of the country. He ıad not seen a single case of tuberculosis cutis in ,800 patients at an army camp.

Dr. Lehman stated that lupus vulgaris is the only ype of tuberculosis of the skin seen here, and was ısually characterized by disseminated plaques.

Dr. Crockett thought that the fact that there are more foreign-born people in the north and east, would explain the greater prevalence of the disease in those sections of the country, since the foreign born are more prone to have these skin conditions. He has seen lupus vulgaris accentuated by overtreatment. Lupus erythematosis produces a great deal of scar tissue, with a low-grade inflammatory reaction. The prognosis depends upon the extent to which scar tissue will become softened, as the blood supply will become established only when the scar softens. Radium has a tendency to soften scar tissue, but cannot always be used.

Dr. Dudley Jackson said that many authorities claim that surgical tuberculosis is of the bovine type. It has been shown that cattle in the north and east are infected in a large percentage of cases. Dr. Rhea had found only three cows infected with tuberculosis here, so that might be an explanation of the rarity of skin complications here, as compared with the north and east.

In closing, Dr. O'Leary said that he had used so little tuberculin that his opinion of it would not be worth very much, but he was afraid of it, as he had seen two cases in which it had been used with serious results. He told of a physician who had been associated with a large tuberculosis sanatorium in New York, who had seen very few cases of tuberculosis of the skin until he went to the Mayo Clinic, where he saw 130 cases the first year. On his return to the same sanatorium, he immediately recognized eight cases. The speaker believed the prognosis in general was fairly good, except in cases where there was visceral extension.

Brown County Medical Society met in Brownwood, February 12, with 13 members and several visitors present.

The following papers were read and freely discussed: "Diagnosis and Treatment of Peptic Ulcer," Dr. Will S. Horn, Fort Worth; "The Value of the Metabolism Test," Dr. W. A. Schernosky, Temple; "Liver Function," Dr. J. E. Robinson, Temple.

A motion was passed, commending the Brownwood Press for refusing to accept advertisements from quacks and cults, and for its stand toward scientific medicine.

Drs. Bailey, Shelton and Allen, were appointed a committee to draw up resolutions on the death of Dr. E. W. Snyder.

Dallas County Medical Society met January 24, with 65 members present.

A paper was read by Dr. A. Clay Gilbert on "Surgery of the Prostate," which was discussed by Drs. H. L. Cecil and Raworth Williams.

Dr. L. S. Thompson read a paper entitled "Blood Transfusion and Preference of the Direct Method," which was discussed by Drs. Harder, Mahon, Miller, Rushing and Giles.

Dr. E. R. Carter read a paper on "Early Indications of Brain Tumors."

Dr. W. M. Duff, from Leflore County, Oklahoma, was elected to membership on transfer.

The withdrawal of membership by Dr. James Montgomery was permitted, by vote of the society.

Dr. John G. McLaurin, reporting for the Committee on the Educational Campaign Fund, stated that $135.00 had been pledged and $70.00 collected, since the last meeting. The secretary was instructed to write each member of the society and request that they send in checks covering their subscription, as early as possible, in order that the money may be forwarded to the State Secretary.

Dallas County Medical Society met February 14, with 53 members present.

Dr. B. H. Griffin presented a case of molluscum contagiosum of six months' duration, in a two-year-old child. Dr. Griffin recommended curettement and caustics in the treatment of such cases.

Dr. F. H. Newton reported the cases of three children who had been shot in the eyes with air guns.

Dr. S. F. Harrington reported the case of a child, from whose right upper bronchus a watermelon seed had been removed by bronchoscope. The seed had been in the bronchus since the summer before, producing respiratory symptoms, elevation of temperature, etc., and at the time of removal there was a beginning lung abscess. The value of an examination for foreign bodies in obscure lung conditions, was stressed.

Dr. R. C. Spence read a paper of "Preventive Medicine During the Preschool Age," which was discussed by Drs. Gosline, Giles, Marchman and H. Leslie Moore.

Dr. L. C. Ellis read a paper on "Hemorrhoids," which was discussed by Drs. Curtice Rosser, C. C. Nash and J. B. Smoot.

The following were elected to membership: Drs. D. V. Myers, G. R. Williams, A. G. Collins, Henry Folb, H. I. Gosline, C. R. Finnegan, R. W. Jenks and R. C. Shanks.

Dr. T. J. Crowe, Secretary of the State Board of Medical Examiners, made a brief address on "The Enforcement of the Medical Practice Act," and requested an expression from the society as to its

wishes in the premises. By a vote of the society, the Committee on Public Health and Legislation was instructed to confer with Dr. Crowe, and report to the society at an early date.

Eastland County Medical Society met in the Gholson Hotel, Ranger, February 12, with 26 members in attendance. The following program was rendered: Invocation, Reverend A. W. Hall, pastor of the First Methodist Church, Ranger; Address of Welcome, Mr. Edward R. Maher, Ranger; Response to Address of Welcome, Dr. T. G. Jackson, Carbon; "Oral Infection," Dr. B. J. McGinnis, dentist, Ranger—discussed by Drs. H. N. Harkrider of Ranger and H. M. Barker of Olden; "Diagnosis and Treatment of Surgical Diseases of the Nervous System" (illustrated), Dr. W. O. Ott, Fort Worth—Discussed by Drs. Blackwell of Gorman, John B. Stackable of Ranger, and Joseph W. Gregory and E. L. Graham of Cisco; "A Plea in Defense of the Plain Old Doctor," Dr. L. C. G. Buchanan, Ranger—discussed by Dr. Joseph W. Gregory of Cisco; "Neisserian Infection in the Female," Dr. James A. Shackelford, Ranger—discussed by Drs. E. C. Blackwell of Gorman and T. E. Payne of Eastland; "Osteomyelitis," Dr. W. C. Palmer, Ranger—discussed by Dr. K. J. Scott of Cisco.

Drs. P. M. Kuykendall and L. K. Ory of Desdemona, were elected to membership.

Twenty-four members of the Ladies' Auxiliary of the society, met in the Mezzanine Room of the Gholson Hotel, at 3:00 p. m., at which time a splendid musical program was rendered. They later visited the new $30,000 hospital of Eastland County, which had been recently opened.

In the evening a buffet dinner was served the members and visitors by the local members of the Ladies' Auxiliary.

The next meeting will be held in Eastland, June 10.

El Paso County Medical Society met January 21 with 23 members and 3 visitors present.

Dr. Hugh Crouse gave a brief general outline of medical history. He was followed by Dr. E. A. Duncan with a paper on "The History of Percussion, and the Life of Auenbrugger." Dr. Crouse then gave a very interesting impromptu talk on the history of auscultation, and Laennec, who devised this method of diagnosis and invented the stethoscope.

Dr. S. D. Swope mentioned the discovery of a prehistoric skull in one of our western states, which had been trephined. He said that this was the first instance of the kind found in North America, many having been found in Central and South America.

The subject of medical history was further discussed by Drs. Leff, Egbert, Laws, Riley, Werley, Gallagher, Leigh, Darnell, Waite and Captain St. Peter. The discussion was closed by Dr. Crouse.

The President announced the appointment of the following legislative committee: Drs. E. D. Strong, E. W. Rheinheimer and E. B. Thompson. He also announced the annual meeting of the Southwestern Medical and Surgical Association, during the coming fall. He further announced that papers for the State Association meeting must first be read before the county society and reported to the State Association not later than March 25.

Harris County Medical Society met January 26, with 74 members present.

Dr. D. F. Lucky, of the U. S. Live Stock Sanitary Board, addressed the society, by invitation, on "Bovine Tuberculosis and Its Relation to Human Tuberculosis." He said, in part that few people realize the prevalence of tuberculosis among cattle, hogs and even poultry. Horses, goats and sheep are susceptible, and hence tuberculosis is not only an enemy to the human being, but to his possessions. Appropriations which mount well into the millions, have been made in different states, for the eradication of this disease among stock. Every state in the Union is doing some work along this line, and Congress has been active in appropriating money for this purpose. Veterinarians have presented this matter before the legislative bodies, and their efforts have had a great educational value. Of late years, the farmer has become so educated to the value of information concerning this disease among live stock that, more often than not, he is ready and even anxious to get all the information possible. Formerly, the farmer often suffered great loss from the disease, and because he did not understand the workings of the disease, he was loath to listen to the advice of informed veterinarians. Since, as in the human race, the disease in animals oftentimes is not apparent, the farmer is often fooled, because many of the healthiest appearing cows are extensively infected. Contrary to the general opinion, Jersey cattle are less susceptible to this disease than other types, for instance, the Shorthorn. Most Shorthorn cattle have been imported from England, where bovine tuberculosis is very prevalent. Dr. Lucky showed lantern slide illustrations of extensive tuberculosis involvement in cattle. Lesions of the liver, spleen, mesenteric glands and omentum, were shown. He stated that tuberculosis of the udder ofter resulted in abscesses, and that cattle very often had lesions of the skin due to wounds made by chickens picking at ticks. Tuberculous hogs probably become infected from tuberculous cattle, and experimental evidence shows that they can also be infected from chickens. Chickens may become infected from human sputum. Reliable evidence shows that there is more or less universal transferability of this disease. The importance of the subject cannot be overemphasized, and the opportunity afforded the doctor of making the people acquainted with the danger of infected milk, is unparalleled.

Harris County Medical Society Clinics were held February 27, at St. Joseph's Infirmary. Operative clinics were held from 8:00 to 11:00 a. m. From 11:00 a. m. until noon there was a symposium on gall-bladder disease. During the afternoon, medical, obstetrical and special clinics were held.

Johnson County Medical Society reports the following officers elected for the ensuing year: President, Dr. M. T. Knox, Cleburne; first vice-president, Dr. U. D. Ezell, Cleburne; second vice-president, Dr. C. C. Bradford, Godley; secretary-treasurer, Dr. W. R. Washburn, Cleburne; delegate, Dr. J. D. Osborne, Cleburne; alternate, Dr. B. H. Turner, Cleburne.

Lubbock-Crosby County Medical Society met at Lubbock, February 8, at which time the following officers, all of Lubbock, were elected for the ensuing year: President, Dr. J. T. Hutchinson; vice-president, Dr. S. H. Stewart; secretary-treasurer, Dr. J. T. Krueger; censor, Dr. Wm. L. Baugh; delegate, Dr. G. G. Castleberry.

Parker-Palo Pinto County Medical Society met in Mineral Wells, January 8, at which time the following officers were elected for the ensuing year: President, Dr. Alexander S. Garrett, Weatherford; secretary, Dr. M. Thompson, Weatherford; assistant secretary, Dr. A. F. Yeager, Mineral Wells; censors, Drs. P. R. Simmons of Weatherford, R. L. Yeager of Mineral Wells and M. Thompson of Weatherford; delegate, Dr. C. B. Williams, Mineral Wells; alternate, Dr. H. F. Leach, Weatherford.

Tarrant County Medical Society met February 5, with about 50 members and several visitors present.

Dr. M. F. Bledsoe of Port Arthur, President-Elect of the State Medical Association of Texas, was introduced and spoke to the society concerning the plans of the State Committee on Education and

Publicity. He stated that as soon as funds are available, the Council on Public Health and Legislation plans an intensive campaign to educate the people of the State on scientific medical questions and matters of public health. Dr. A. B. Small of Dallas, Councilor of the Fourteenth District, also spoke on the subject. Dr. J. J. Terrill of Dallas, explained in detail why the Council is undertaking a campaign for funds for the purpose of publicity.

It was the concensus of opinion of all three speakers that the average person is prone to be easily led astray on questions of health. The various cults and quacks have been quick to take advantage of this by flagrant advertising that appeals to the emotions of the public. It is the plan of the committee to offset this propaganda by dignified and legitimate use of the platform, press and personal contact.

On motion the society agreed to underwrite a fund of $10.00 per member, said fund to be raised by voluntary subscription.

Mr. J. L. Booty of Tyler, Texas, spoke on "Stammering, Its Cause and Cure." Mr. Booty said, in part, that stammering is acquired. Normal speech is subconscious and without effort. The stammerer makes it a conscious process, and with effort. Stammering usually commences when the child fails to pronounce a certain word. Being surprised that he cannot speak the word, he tries to force it out. This effort causes rigidity of the talking muscles, which renders speaking impossible. Relaxation of these muscles is the first problem for the stammerer. Embarrassment and fear make the stammerer's efforts more difficult, as most stammerers can talk when alone, but not in public. On account of this acquired rigidity, the tongue muscles of the stammerer become strained and tired, and the tongue falls to the bottom of the mouth. Normally, the tongue stays at the roof of the mouth, against the palate, and hence the stammerer has great difficulty in making letters formed by the downward stroke of the tongue.

The address was discussed by Dr. Wilmer Allison, who stated that Mr. Booty was one of those rare individuals who are able to analyze their own deficiencies, and correct them. Mr. Booty had been a stammerer most of his life, and quite accidentally discovered the cause of this defect. By laborious effort he was able to correct it. Most schools for stammering use artificial methods that are of doubtful benefit, and some schools for stammering are out and out frauds.

A rising vote of thanks was tendered Mr. Booty.

Drs. J. L. Spivey, W. O. Ott and R. P. O'Bannon, were elected to membership.

Tarrant County Medical Society met February 19, with 30 members present.

Drs. C. P. Schenck and Tom Bond reported an unusual case of a foreign body in the gastro-intestinal tract. The patient, a child one year old, had swallowed an ordinary-sized fence staple. Radiograms showed the staple lodged in the stomach, two months afterward. The child apparently suffered no discomfort. After the staple had been given over two months' time to leave the stomach, a gastrostomy was done, because it was feared that the sharp points of the staple might perforate the stomach walls. The stomach and the entire intestinal tract were searched carefully without finding the foreign body. It was the opinion of the surgeon that the staple had been regurgitated into the esophagus when the child was vomiting from the anesthetic. The family refused any further examination at this time. Two months after the laparotomy, or four months after the swallowing of the staple, the esophagoscope was passed and the staple removed from the lower third of the esophagus. The case was discussed by Drs. E. H. Bursey, E. F. Gough and W. C. Lackey.

Dr. Wilmer L. Allison read a paper entitled "What Texas Has Not Done for the Insane." In the discussion which followed, it was urged that this paper be published in the lay press, in order to educate the public as to their responsibility in properly taking care of the mentally sick.

Dr. Victor Bonelli, city school physician, led a general discussion of the present measles epidemic in Fort Worth. Drs. L. A. Suggs and Kent V. Kibbie, were appointed to confer with the City Commission concerning the advisability of enacting an ordinance making measles a quarantinable disease.

Dr. W. D. Lipscomb was elected to membership.

Wood County Medical Society met December 28, 1923, at which time the following officers were elected for 1924: President, Dr. W. T. Black, Quitman; vice-president, Dr. J. B. Goldsmith, Quitman; secretary-treasurer, Dr. V. E. Robbins, Quitman; censor, Dr. Lem Faulk, Alba; delegate, Dr. Robt. Coleman, Mineola.

The Northeast Texas Medical Society will meet in Clarksville, April 8. A good attendance is urged.

The Southwest Texas District Medical Association met in semiannual session February 12 at 9:30 a. m. in the Bexar County Medical Library. In the absence of the president, Dr. Geo. Holmes of Gonzales, Dr. J. H. Biggar of San Antonio, vice-president, called the meeting to order. Dr. S. P. Cunningham, president of the Bexar County Society, made the address of welcome.

The following papers were read and freely discussed: "Dilatable Aorta," by Dr. J. S. Lankford, San Antonio—discussed by Drs. Lee Rice and C. D. Steinwinder, San Antonio; "School Follicles," by Dr. O. H. Judkins, San Antonio—discussed by Dr. E. M. Sykes, San Antonio, and others; "Unusual Twins," by Dr. N. A. Elder, Nixon—discussed by Dr. I. T. Cutter, San Antonio, and others; "Breast Feeding," by Dr. L. Hill, San Antonio—discussed by Dr. Geo. Cornick, San Antonio, and others.

From 2:00 to 5:00 p. m., clinics were held at the Robt. B. Green Memorial Hospital by the following sections: Surgical—Drs. C. E. Scull, O. H. Timmins and G. A. Pagenstecher; gynecological—Drs. S. P. Cunningham and R. T. Goodwin; eye, ear, nose and throat—Drs. L. K. Beck and F. W. Sorrell; genito-urinary—Drs. H. McC. Johnson and J. M. Venable.

At the evening session the following papers were read: "Post-operative Pneumonia," by Dr. J. W. Nixon, Jr., San Antonio—discussed by Drs. R. S. Adams, C. D. Steinwinder, H. T. Wilson and Jack Casidy, San Antonio; "Intrathoracic Conditions Simulating Pulmonary Tuberculosis," by Drs. I. S. Kahn and W. S. Hamilton of San Antonio—discussed by Dr. W. A. Ostendorf, San Antonio, and others; "Gall Bladder Drainage by Means of the Duodenal Tube," by Dr. E. V. Depew, San Antonio—discussed by Drs. S. T. Lowry and Lee Rice, San Antonio.

At 9:00 a. m., February 13, the program was resumed with the following papers: "Evidence of Myocardial Impairment as Shown by the Electrocardiogram," by Capt. H. D. Rogers, Base Hospital, Ft. Sam Houston—discussed by Drs. C. D. Steinwinder and W. E. Nesbit of San Antonio, and J. Daughety of Brownwood; "The Differential Leucocyte Count in Diagnosis: a Study of 932 Cases," by Dr. M. D. Levy, Houston—discussed by Drs. W. E. Nesbit, San Antonio, and C. O. Watson, Corpus Christi; "Completely Dislocated Crystalline Lens, with Recovery," by Dr. J. L. Felder, San Antonio—discussed by Dr. F. H. Rosebrough, San Antonio; "Importance of the Sigmoid and Rectum in Chronic Constipation," by Dr. W. H. Cade, San Antonio—discussed by Dr. L. M. Weinfield, San Antonio, and

others; "X-Ray Examination of the Gastro-Intestinal Tract," by Dr. W. A. Ostendorf, San Antonio—discussed by Dr. W. H. Cade.

Officers elected for the ensuing year were: President, Dr. O. H. Judkins, San Antonio; vice-president, Dr. W. H. Cade, San Antonio; secretary-treasurer, Dr. C. D. Steinwinder, San Antonio.

From 2:00 to 5:00 p. m., clinics were resumed at the Robt. B. Green Memorial Hospital, by the following sections: Surgical—Drs. Homer T. Wilson and J. W. Nixon, San Antonio; gynecological—Drs. P. I. Nixon and Ivy Stansel, San Antonio; dermatologic—Drs. I. L. McGlasson and C. F. Lehman, San Antonio. Drs. E. A. and E. P. Cayo conducted an orthopedic clinic at Santa Rosa Infirmary from 5:00 to 6:00 p. m.

The next meeting of the association will be held at Corpus Christi in July.

Personals.—Announcement has been received from Dr. Wilson T. Davidson, of his removal from Belton to San Francisco, where he is limiting his practice to tropical Medicine. We wish to extend our best wishes to the Doctor, and congratulate him upon being *able* to live on the Pacific Coast.

The Secretary of Cameron County Medical Society, Dr. John Hunter of La Feria, met with a painful accident, February 2 (ground-hog day), when he was struck by an automobile. In spite of the Doctor's seventy-three years, he insists that a small thing like an Oldsmobile cannot get him down. He describes his sensations, at the time of the accident, in these words: "It seemed that the whole world had struck me on every inch of my anatomy; and when I struck the pavement, I felt like an egg that had been thrown from a two-story window." The Doctor reports that no bones were broken, and that although he is now traveling on four legs, he expects soon to be crowding the other young men. Just five days after the accident, Dr. Hunter was assisted into an automobile and driven 35 miles to attend a meeting of the medical society at McAllen, to quote Dr. Hunter again, "just because I have never in my life missed a medical meeting which I was due to attend." Who wants to challenge the Doctor to a game of marbles?

Dr. N. D. Buie, Councilor of the Twelfth District and owner of the Buie-Streit Clinic and Marlin Sanitarium-Bath House, has just returned from a two-months' stay in the East. Six months were spent in New York at the Post-Graduate School of Medicine, and the remainder of the time was spent visiting hospitals at Washington, Baltimore, Philadelphia, Boston and Battle Creek. Dr. Buie reports that the larger medical centers are doing much original work, and that much progress is being made in fields of medical endeavor, hitherto *terra incognita*.

CHANGES OF ADDRESS.

Dr. J. W. Sublett, from Poolville to Jean.
Dr. W. T. Davidson, from Dallas to San Francisco, Calif.
Dr. R. L. Page, from Henderson to Tyler.
Dr. Lee Rice, from Galveston to San Antonio.
Dr. W. D. Herring, from Corsicana to Blooming Grove.
Dr. J. W. Oxford, from San Antonio to Floresville.
Dr. J. C. Hennen, from Memphis to Mineral Wells.
Dr. O. B. Manes, from Coleman to San Antonio.
Dr. J. D. Dorbandt, from Lampasas to Monrovia, Calif.
Dr. J. R. Kight, from San Angelo to Dallas.
Dr. R. W. Poplin, from Midlothian to Terrell.
Dr. G. M. Duckworth, from San Antonio to Cuero.
Dr. M. L. Harrell, from Mineral Wells to Dallas.
Dr. A. R. Hays, from Tulia to Baird.
Dr. Claude Uhler, from Dallas to Baltimore, Md.
Dr. J. S. Zvesper, from West to Schulenburg.
Dr. J. C. Fortenberry, from Evadale to Voth.
Dr. C. C. Sorrells, from Royse City to Dallas.
Dr. J. E. Moffitt, from Henrietta to Stanton.

DEATHS

Dr. L. L. Hewlett of Lockhart, died at his home, very suddenly, February 9, 1924.

Dr. Hewlett was born in Madisonville, Kentucky, March 28, 1886. He took his preliminary medical course at Bowling Green, Kentucky, receiving his degree in the University of Louisville in 1912. He practiced for a year in Kentucky, removing to Lockhart, Texas, in November, 1913. He continued to practice in Lockhart, associated with the firm of Drs. Coopwood and Ross, until he entered the Army, in August, 1917. His army service began with the rank of First Lieutenant, and he was discharged a Captain. He was assigned to the 131st Machine-gun Battalion (36th Division) and went overseas with that organization. He was seriously gassed in action,

DR. L. L. HEWLETT.

October 25, 1918, and was sent home as a casual. He was cared for in Ft. Sam Houston for a time, afterwards going to Fitzsimmons Hospital, in Denver. He was discharged in August, 1920, with a physical disability rating. He remained in Denver until 1922, at which time he returned to Lockhart, where he died—probably from a ruptured pneumothorax.

Dr. Hewlett was married to Miss Bernice King, July 10, 1910. He is survived by his wife, one son, his parents, two brothers and four sisters. He was buried in Lockhart.

The popularity of Dr. Hewlett, among his professional brethren and his clientele, was remarkable. He enjoyed a remunerative practice almost from the beginning. During his absence in the Army he contributed his salary to the income of the firm to which

he belonged when he entered, and received his share of the total proceeds of the business, in amount approximating, perhaps, the pay of a Major General. He severed this connection on his own motion when he was discharged from the Army, an invalid and unable to work. He was a Mason of high degree, and took great interest in all branches of that organization. He was a member of the Christian Church. The pastors of four different churches officiated at his funeral. In a letter containing data for this notice, an associate of his stated that, "he was modest and unassuming, loved his friends, was always cheerful in his suffering and was, I think, the gamest man I have ever known."

Dr. George H. Sandefer of Abilene, died at his home, February 14, 1924.

DR. GEORGE H. SANDEFER.

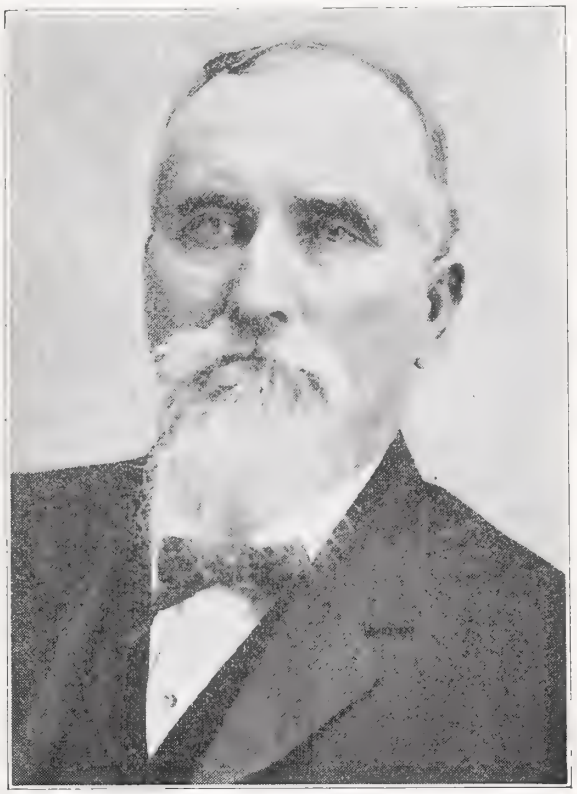
Dr. Sandefer was born in Sharp county, Arkansas, April 10, 1871, soon after which his parents located near Weatherford, Texas, where he received his early education, graduating from Witt College. He studied medicine in the State University, at Galveston, but received his degree from Vanderbilt University, and later did post-graduate work at Rush Medical College, Chicago, and Tulane University, New Orleans.

Dr. Sandefer began practicing at Strawn, Texas, where he was superintendent of the Thurber Coal and Mining Hospital for eleven years, in which work he was associated with Dr. B. L. Jenkins, now of Clarendon. During his career, Dr. Sandefer held a number of offices of distinction. For fourteen years he was physician for Simmons College, and during the war was physician for the Students Army Training Corps at that institution. He was a member of the Texas State Board of Health for four years, and at the time of his death was a member of the State Board of Medical Examiners, by which body he was highly esteemed. He was a member of the Baptist Church, a Mason, and had been an active member of his county medical society for many years.

Dr. Sandefer was married in 1897, to Miss Grace Gilbert, who died a few years later, leaving two small daughters. In 1914, he was married to Miss Lillian Hall, who, with a young son, survives him.

It is said of Dr. Sandefer, by those who knew him best and with whom he was closely associated, that his life was one of unselfishness and service for others; that he was highly optimistic, and that his Christian character was strikingly manifested after he realized that he was stricken by a mortal disease, facing death cheerfully and fearlessly. Thus he inspired courage and faith in those who were near and dear to him.

Dr. J. S. Wilson of Ferris, Texas, died at his home, September 23, 1923. He was born in Alabama in 1847, and while yet a small boy moved with his parents to Oxford, Mississippi, where he received his early education. He secured his degree in Medicine from the Kentucky School of Medicine, Louisville, Kentucky, in 1879, soon after which he went to Lafayette, Mississippi, where for fifteen years he did an extensive practice, at one time serving as county health officer of Lafayette county. He came



DR. J. S. WILSON.

to Texas in 1894, locating at Ferris, where he practiced until the time of his death. He is survived by his wife, two sons and a brother, all of Ferris, Texas; a daughter, Mrs. Jack Atkins of Nacogdoches, and five grandchildren.

PAY YOUR DUES NOW
GET A BLUE CARD

BOOK NOTES

"A chiel's amang ye ta'en notes
An' faith, he'll prent 'em, too."

Obstetrics for Nurses. By Joseph B. De Lee A. M., M. D. Professor of Obstetrics at the Northwestern University Medical School; Obstetrician to the Chicago Lying-In Hospital and Dispensary. Sixth Edition, Entirely Reset. Cloth 8vo. pages 525. Illustrated. Philadelphia. W. B. Saunders Company, 1922.

Dr. De Lee has carefully reviewed and brought his text up to date, and this justly popular little book will again meet the hearty approval of all concerned.

The Infant and Young Child. Its care and feeding from birth until school age. A manual for mothers. By John Lovett Morse, M. D., Edwin T. Wyman, M. D., and Louis Webb Hill, M. D., of Harvard Medical School and Children's Hospital, Boston. 12 mo. of 271 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1923. Cloth, $1.75 net.

Written especially for mothers, this little book is worthy of a place in every child-growing home. Written as it is by able men in active medical practice, mothers can rely upon its counsel and direction in the care and feeding of their little ones.

The book is an effort in the right direction, and every doctor having to do with child welfare, should persuade his clientele of mothers and prospective mothers to own a copy of it.

Lessons on Tuberculosis and Consumption. By Charles E. Atkinson, M. D. 12mo., cloth, 470 pages. Price $2.50 net. Funk & Wagnalls Company, New York, Publishers.

The desire of the author in writing this handy book, has been to give the victim of tuberculosis a better understanding of his condition and the treatment prescribed, in order that he may the more intelligently co-operate in the efforts made by his physician to bring him back to health.

Its style is popular, and it can be read by the average layman as intelligently as the latest novel. It ought to have a wide field of usefulness, and will prove of great value both to the doctor and to the patient.

Diagnostic Methods. A Guide for History Taking, Making of Routine Physical Examinations and the Usual Laboratory Tests Necessary for Students in Clinical Pathology, Hospital Internes, and Practicing Physicians. By Herbert Thomas Brooks, A. B., M. D., F. A. C. P., Professor of Clinical Medicine, College of Medical Evangelists, Los Angeles, California, Etc. Fourth Edition with Fifty-two Illustrations. 8vo., pages 109. C. V. Mosby Company, St. Louis, 1923. $1.75.

This edition contains much of value that the preceding one did not include, on account of the many advances made in clinical methods. The text is very clear and succinct, leaving out unnecessary tests and descriptions.

The volume is divided into xiii chapters on History Taking; Physical Examination; Sputum; Urine; Gastric Contests; Blood; Intestinal Contents; Serous Fluids; Staining and Examination of Smears; The Wassermann Reaction; Complement Fixation Test for Gonorrhoea; Tuberculin Diagnosis; Apparatus and Chemical Reagents Necessary for a Physician's Laboratory.

A valuable little laboratory manual that will find a welcome and ready use among the profession.

Lectures on Endocrinology. By Walter Timme, M. D., Attending Neurologist, Neurological Institute, New York., Etc., Etc. Cloth, 12mo., pages 123. With Twenty-seven Illustrations. Paul B. Hoeber, Inc., New York. 1924. $1.50.

This little book was copyrighted in 1924, and the author's preface dated December, 1923, but the preface confesses that the contents are what "appeared in the *Neurological Bulletin* for January, 1921, and that it is "an unchanged reprint of the article which appeared in 1921, and that developments since that time have not been added." It would seem untimely to reprint a paper of this nature, after two years of such phenomenal progress as has been made in the study of endocrinology. The text is scholarly and the paper was up to date when it appeared in the *Neurological Bulletin* in December, 1921, but this branch of physiology has seen many hypotheses spring up, flourish over-night and wither in the effulgence of the searchlight of the next day's studies. This is not a repudiation of what the author has written. The book is simply out of date.

The American Illustrated Medical Dictionary. By W. A. Newman Dorland, A. M., M. D., F. A. C. S., Major, M. C., U. S. Army; Member of Committee on Nomenclature and Classification of Diseases of the American Medical Association; Editor of "American Pocket Medical Dictionary." A New and Complete Dictionary of the Terms Used in Medicine, and Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology, Medical Biography, Etc., with the Pronunciation, Derivation and Definition. Including Much Collateral Information of an Encyclopedic Character. Together with New and Elaborate Tables of Arteries, Muscles, Nerves, Veins, Etc.; of Bacteria, Ptomains and Leucomains, Weights and Measures, Eponymic Tables of Diseases, Operations, Signs and Symptoms, Stains, Tests, Methods and Treatment, Etc. Twelfth Edition, Revised and Enlarged. W. B. Saunders Company, Philadelphia and London.

Sixty-nine pages containing over three thousand new words, are added to this edition since 1921. And, so far as we have noted, no new word has been omitted, so thorough has been the work of Major Dorland, and his publishers.

No magazine, and certainly no medical or scientific journal, should be without this almost encyclopedic text-book of information indispensable to reading and study, and no commendation from us can adequately evaluate this splendid work for daily use.

Practical Local Anesthesia, and Its Surgical Technic. By Robert Emmett Farr, M. D., F. A. C. S., Minneapolis, Minnesota. Gray cloth 8vo., pages 520. Illustrated with 219 Engravings, and 16 Plates. Lea & Febiger, Philadelphia and New York, 1923.

The author has views on Local Anesthesia and has expressed them in this volume, in which he strives to set forth what he thinks to be of most value in this particular field.

Spinal anesthesia has been omitted from the text because the author's experience with it is too limited for his opinions to be worth while.

He has divided his book into three parts. Part I is devoted to "certain problems in connection with anesthenia, including equipment, technic, and a description of the sensory nervous system. Part II is a consideration of all regions of the body, except the abdomen. Part III includes the consideration of the surgery of the adbomen."

The text is learnedly written, and most valuable.

Texas State Journal of Medicine

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DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH OF TEXAS

The Program for the San Antonio Session is given in full elsewhere in this number of Journal. It will be reprinted in pamphlet form and distributed at the meeting. It is printed here because it is both news and information. If our readers do not read it, it will miss fire and much of the money and trouble expended in the endeavor will be wasted. Therefore, it is hoped that our members will kindly attend.

Taking the outstanding features of the meeting as we come to them in the program, it will be noted that the registration office, information bureau, and commercial exhibits will be located in the St. Anthony Hotel. The sections of Surgery, Gynecology and Obstetrics, and State Medicine and Public Hygiene, will also meet in the St. Anthony Hotel, as will the Woman's Auxiliary. The House of Delegates and the sections on Medicine and Diseases of Children and Ophthalmology, Otology, Rhinology and Laryngology, will hold forth in the Gunter Hotel, in the adjoining block. All of the General Sessions, including the Memorial Exercises, and excepting the Opening Exercises, will be held in the Travis Park Methodist Church, directly in front of the St. Anthony Hotel. The Opening Exercises will be held in the large, convenient and pleasant ball room of the Gunter Hotel. This arrangement would seem to be about as convenient as could well be hoped for. We always aspire to a meeting all under one cover, for the sake of convenience in changing base. There may be some advantage in an outside walk of a half block. The two splendid hotels that will accommodate us on this occasion, may be relied upon to render our meetings the maximum of comfort and convenience.

The General Sessions this year are worthy of special comment. On the occasion of the Opening Exercises, the President will deliver the Annual Address, following a talk by the Honorable O. B. Black of San Antonio, one of the strongest exponents of sensible public health legislation to be found among the laity. The program is not unduly prolonged. President Dr. Scott has been in close touch with medical and public health affairs of Texas for many years, and is in a position to tell the truth entertainingly, and as it should be told. We are not in on the secret, but we have an idea that he will hold his audience, both lay and professional.

On Wednesday afternoon, the General Sessions is planned to bring out the importance of an educated medical profession, including the professions of dentistry and pharmacy, as relates to the public health. The opinion prevails in lay circles that it is of considerable importance to keep from getting sick. Very few pause to consider that it is of equal importance that the sick get well. The individual who is sick desires to get well just about as much as he may have desired to avoid getting sick. The layman dimly appreciates that it is of some consequence to him that an individual afflicted with a contagious or infectious disease should be cured, or isolated, and when the sick are about to become a public charge, the tax-payer becomes interested in the matter of their cure. At this meeting the public will be told by a layman, a dentist, a

pharmacist and three physicians, the truth, the whole truth and nothing but the truth, in this regard. It will be one of the most far-reaching and important meetings we have ever conducted. The program looks long, but the different speakers have promised to make snappy talks.

The General Session on Thursday afternoon, at the time of the introduction of newly elected officers, will embrace another such occasion as that of the day before, the emphasis this time being placed on the subject of insanity. Two of our experienced physicians, who are well known to the profession, will tell us what should be done for the insane and what is not being done, and Dr. W. A. Pusey of Chicago, President-Elect of the American Medical Association, and a physician of international authority on the subject, will discuss some public health phases of syphilis.

According to custom, the pulpits of the city will be filled by speakers of note in the public health field. Those who can spend Sunday in the city will do well to remember that fact.

The Memorial Exercises will be held on the night of the first day, as usual, and a very excellent program has been prepared.

The scientific sections are offering very pleasing programs. Whatever else may be said of them, they at least are not overcrowded, as is usually the case. We will see now just how much better we will do by way of discussing these papers than we have done heretofore. The complaint has always been that there has been no time for discussions. It will be recalled that the section officers and the Committee on Scientific Work, following a conference, decided to restrict the scientific sections in the number of papers to be presented through each. The Sections on Medicine and Surgery were allowed 25 papers each. The Eye, Ear, Nose and Throat section and the Section on State Medicine and Public Hygiene, were allowed from 16 to 20 papers, and the Section on Gynecology from 15 to 18 papers. The Section on Medicine has been forced to exceed the limit somewhat, by circumstances that could hardly be controlled, but the number is still not excessive, (31). The Section on Surgery has exceeded the limit by 1, that being the paper of a Fraternal Delegate, whose requirements were not determined until the program had been closed. The other sections are running true to form. The sections on Medicine, Surgery and State Medicine and Public Hygiene, will hold forth Tuesday afternoon. The same sections will meet throughout Wednesday, and the Section on Gynecology will begin to function in the afternoon. On Thursday, Medicine, Surgery, Eye, Ear, Nose and Throat and Gynecology, will meet concurrently. Our members may pick their entertainment in accordance with the data included in the program, with almost absolute certainty that they will not be disappointed. Only the General Sessions have the authority to change the order of papers, or the character of the program.

We are informed by the chairman of the Scientific Exhibit Committee, that a very good display has been arranged for. This seems to be one of the most difficult phases of our annual sessions. It is a rather difficult undertaking at best, and there is considerable expense attached. Not only that, but many of the most desirable specimens are likely to be injured by being transported to and from the place of meeting. Quite probably many of the institutions in the State in a position to make exhibits of this sort, would be willing to do so could they feel that their efforts would be justified by attendance. And quite probably the attendance would be much better if members could be assured that worth while exhibits are to be made. There is a vicious cycle here that we would like to see broken. The prospective location of this exhibit has not been made known to us. It will be so placed as to be quite evident, and we speak for it in advance, the consideration it deserves.

The following distinguished guests will participate in the program, in one capacity or another: Dr. W. A. Pusey, President-Elect of the American Medical Association, Chicago; Dr. W. D. Haggard, Nashville, Tennessee; Dr Stewart R. Roberts, Atlanta, Georgia; Dr. E S. Judd, Rochester, Minnessota; Drs. C. Jeff Miller and L. R. DeBuys, New Orleans; Lieutenant-Colonel Raymond Metcalf, M. C., U S. A., Ft. Sam Houston; Major John B

Hawley, Fort Worth; Drs. W. W. Battle, A. P. Harrison, H. H. Harrington and Mr. V. M. Ehlers of Austin, and Messrs. R. E. Tarbett and C. F. Proper of El Paso.

The entertainment provided is typical of San Antonio, and likewise typical of San Antonio, will be carried out with great acclaim. Much of the entertainment is for the Woman's Auxiliary, but much of it is also for members.

On Tuesday evening, following the Memorial Exercises, the alumni banquets, reunions and the like, will be held.

On Wednesday evening all visitors and members will be entertained by a Mexican supper and entertainment, at the Mexican Village, Brackenridge Park, and later on in the evening the President's Reception will be held in the Roof Garden of the St. Anthony Hotel.

Thursday morning there will be a May Day breakfast and swimming party at San Pedro Park, for members and guests.

It appears quite evident that there will be much golf. Not being an enthusiast on the subject, we can say little in that regard, but judging from those in charge, we feel that the golf part of the entertainment will speak for itself.

The Texas Railway Surgical and Hygienical Association, the Texas Radiological Society and the State Pathological Society of Texas, will hold their sessions on Monday, the 28th, and the programs of these several meetings will be found following the programs of scientific sections, in this number of the JOURNAL. A round table discussion of public health problems will be conducted by State Health Officer Dr. Duggan in Hall No. 6 (Red Room) St. Anthony Hotel.

Railroad rates have been granted as usual, on the certificate plan and one and one-half fare for the round trip. Tickets will be on sale April 27, 28 and 29, and will be good for the return trip as late as May 4. At this writing an effort is being made to secure an additional selling date, April 26, for the accommodation of those who reside in the remoter parts of the State, as relate to San Antonio, and who desire to reach San Antonio Monday. Members will apply to their respective county society secretaries, who have been furnished with the necessary certificates. If any secretary has exhausted his supply, it will be proper to apply to the State Secretary, if necessary by wire. Tickets should be arranged for well in advance of the anticipated time of leaving. Railway ticket agents will sell them to any holder of one of these certificates, for one and one-half fare for the round trip, for each member of his family or dependent. Tickets are not good for non-members, otherwise. The Katy will extend the courtesy of passes to physicians entitled to them, on application through regular channels. Probably other roads entering San Antonio will do the same.

The hotels announce that there will be room for everybody; at the same time, it is the part of wisdom to engage hotel accommodations well in advance. A list of hotels, together with rates, will be found among the announcements in the program.

All Aboard for San Antonio.

Prospective Authors, Attention! The Publicity Committee must have synopses of contributions to the scientific program (and to the program of General Sessions, as well,) if the Annual Session is to receive the sort of publicity it should have. Authors are, therefore, urged to immediately mail to Dr. R. E. Bowen, City National Bank Bldg., San Antonio, brief but comprehensive statements of what their respective papers contain. In this connection, permit us to direct attention to the following discussion of the whole problem of authors' abstracts, by Dr. J. R. Schramm, of the National Research Council:

"(1) They should enable readers to determine quickly and *accurately* what is contained in the corresponding articles.

"(2) They should serve as adequate abstracts for the abstracting journal or journals, and also as the basis of the latter's, or any other, subject index of the original articles.

"Special attention is called to the following essential considerations to be kept in mind in preparing the abstracts:

"*Emphasis*: Since abstracts are used extensively to direct readers currently to those articles containing *any* contributions inviting or requiring their critical first-hand attention, the abstract must not fail to give concisely in considerable detail:

"(1) The *new information* (both the topics, major and minor, concerning which new information is presented, and, in brief, the new information itself), be it additions to knowledge; new applications of known facts or principles, or applications of such known facts or principles under new or different circumstances; new interpretations, theories, or hypotheses; or any other information based on observation, calculation, experiment, interpretation, etc., and which is not compiled from already published information known to the author. Compilations of known facts, resumes of literature, bibliographies, etc., when extensive, should be noted very briefly in the abstract. The abstract should be so worded as to distinguish clearly between original contributions and other material in the article.

"(2) The *methods employed,* if any. It is often as important to know the methods as to know the results.

"The indexes of abstracting journals are increasingly important in reference work. *These indexes are prepared exclusively from the abstracts.* It follows that what is not in the abstract can not find its way into the index and thus is in danger of being lost. This is an equally important reason why the adequate abstract must include mention of all entities concerning which new information is presented, such as organisms (by full scientific name wherever possible, including authority); processes; phenomena; factors; structures; organs; chemical, physical, or biological entities; geographical areas; relations; methods; theories; hypotheses; applications; uses; etc.; etc.

"*Length:* Although cost of publication and the readers' limited time require that abstracts be as brief as possible, no arbitrary limit is placed on length. The abstracts should be as long as necessary to fulfill their purposes. It is obviously easier for editors to shorten abstracts, where this can be done without injury than to supply missing information.

"*Style*: *Only complete concise sentences should be used; telegraphic style,* because of its ambiguity, should be strictly *avoided.* Tables should not be used or only in very exceptional cases."

There is, to be sure, a difference between a synopsis and an abstract, but we have an idea that the abstract will really come nearer meeting the requirements of the Publicity Committee than would a synopsis, which is, of course, a much more abbreviated affair. In this connection, it might be well to consider that the purpose of the synopses or abstracts, as above called for, is to inform the public, including the medical profession not present at the meeting, what is going on, and how it is going on—also, what is coming off and perhaps how it is coming off. It is not an effort to boost the game of any individual.

It has been suggested that each original article published in the JOURNAL be accompanied by an abstract, for the convenience of the reader, who may judge from the abstract whether or not he cares to read the article. In this day of much literature, good, bad and indifferent, some such expedient is almost essential. We are strongly contemplating adopting the plan, and the abstracts above called for would be useful in that connection. Incidentally, the advance preparation, by the author, of an abstract of his article, will serve the convenience of the abstracting publications, thereby insuring the prompt notice of articles so abstracted.

And while we are at it, permit us to urge upon authors our annual admonition to observe the common proprieties of publication in the preparation of their manuscripts. A manuscript is a thing to be read and corrected by the editor, and read and put in type by the printer. If an author will place himself in the position of either one, he will have no trouble in understanding the requirements. A manuscript should, of course, be typewritten. It should be typed on standard-sized paper, double-spaced and with ample margin, and the pages, should be pinned or attached to each other in some such temporary manner, in order that they may be easily separated. An editor who has been compelled to labor diligently to separate a manuscript into its several pages, then add editorial notes along the margin and in available and very scarce vacant spaces, is not in a good frame of mind to edit a paper; and a printer who must handle odd-shaped and sized manuscripts, blue, green or yellow, and perhaps perfumed, is likely to be sore at the world and apt to accomplish his work poorly. Too frequently, authors of papers give very little attention to even the spelling and composition of their articles, and care less about their appearance as finished products. Perhaps the paper was written in script, and some stenographer who could not spell if entirely surrounded by dictionaries, tries to decipher writing that cannot be deciphered, particularly by a typist who does not know the English language commonly in use, not to mention that part of it devoted to the science and art of medicine. The result is really aggravating. And to make a bad matter worse, very frequently the typist affects reformed spelling, or feels that prepositions are such little matters, and do not count anyway. Nobody fools with such things in sending telegrams, and the multiplication table is quite devoid of them; then why mess with them in a scientific article? But the idea is, of course, that we are not publishing telegrams or multiplication tables, and are trying to meet the very reasonable demands of our readers for easy reading.

It should not be forgotten that each paper presented at the San Antonio session, must be accompanied by a certificate from the county society secretary, that the paper has been read before the society, or where this was not possible, before a district society.

Who is Delinquent?—On April 1, there were exactly 2,345 members of the State Medical Association of Texas. The membership for 1923 reached a total of 3,725. Therefore, there were on April 1 of this year at least 1,380 members who were delinquent. There may be a discrepancy in the figures, incident to the number of new members reported. For the purposes of this communication, that is not material. It is our desire to point out that there are at least 1,380 members who may be denied the privilege of medical defense for an incident occurring between January 1 and the date they actually pay their dues. It will be an exceedingly unfortunate thing if any cases of this sort should arise, both for the individuals concerned and for the State Association. The State Association could hardly afford to rule or provide, that exceptions be made in such cases. We might as well have no laws, and leave it all to the Council. The Council would then have very little option than to take care of everybody—which might not be a bad thing, if it were practicable.

It is probably true that numerous county society reports were in the mails on March 31, and the State Secretary will credit all such as having been received on time. It is also probable that no great harm will come of any delinquency here recited, and it is even possible that the fact of delinquency would be overlooked should trouble arise. The point is, why take chances? It is to be hoped that each member will look into his own particular situation at once, in order that needed repairs may be made in the record as soon as possible. There is time, but not a great deal of it. If any member has not paid his county society secretary, let him attend to that little matter at once. If any member who has paid dues has not received his membership card, let him make inquiry of his county secretary, and without delay. It will be necessary, of course, to make due allowances for the crowded condition of the office of the State Secretary.

It is not permissible for the State Secretary to accept dues from a member direct either before or at the time of the Annual Session. No one can authorize the acceptance of dues except the county society secretary—not even the President or the Councilor. The fact that a member has paid his county society secretary will not help. The money must be in the hands of the State Secretary, and it must come, directly or indirectly, from the county society secretary. We hope this statement is plain, and that every member who expects to attend the Annual Session, will read it.

The card is blue, get one!

Volume XIX Closes with this issue. As we close the book we wonder whether the medical profession of Texas has "done itself proud" in the brief period of time covered, and whether we have made a fair, full and accurate record. We wonder whether we have succeeded in pointing out the important factors in progress, that have confronted us during the year—whether we have truly played the part of the watchman on the tower. We would be pleased to feel that we have done well and deserve well of our fellows, but perhaps it is good that we do not know. However, that may be, we could use a little advice and a little friendly counsel. Last year we made a plea of this sort, in the following words:

"In other words, we crave advice—not the fault-finding and contentious kind, but the wholesome, constructive kind, such as will enable the Board of Trustees and their servant, the editor, to publish a more satisfactory medical journal of the variety known as 'State.' That is to say, it is desired to give to the whole profession the most interesting and profitable publication relative to the affairs of the whole profession, and not necessarily the most scientific or the most meritorious from a literary standpoint. It must be recognized that a State journal is but a sublimed (perhaps) bulletin. It can aspire to scientific and literary excellence only in so far as its membership produces that sort of material for publication. The editor may possibly help by selecting an occasional article from some celebrity, or by himself producing something of exceptional merit, but there can hardly be sufficient leeway to lift the publication a great deal above the level of its average contributor."

We cannot say that our plea was successful.

The harvest for the year has been somewhat in excess of that for the previous year. The closing volume contains 1,308 pages, of which 582 contain advertising and 726 reading matter. That exceeds the volume of the previous year considerably. In that volume there was a total of 1,174 pages, of which 522 were advertising and 652 reading pages. It will be noted that the excess of reading pages in the present over the preceding volume, is 134. We were able to increase the reading pages because there are 60 more advertising pages than before. This is an object lesson worthy of deep consideration. And we may add, our profits have not suffered by the increased volume of reading matter we have given our subscribers. We could do much better than that if our readers would give closer attention to our advertising business.

Dividing the reading pages of this volume, we have the following: Editorial, 114; Original Article, 385; Miscellaneous, 113; News, 11; Society News, 55; Book Notes, 14; Deaths, 19; Index, 14. The same division of the preceding volume results as follows: Editorial,

118; Original Article, 282; Miscellaneous, 131; News, 13; Society News, 58; Book Notes, 18; Deaths, 19; Index, 14.

We cannot say that the ideal combination of reading matter has yet been attained. Each year we are confronted with one contingency or another, which influences the proportion of one department to the others, more or less at variance with our ideas. We should be financially independent, and able to spread out as occasion demands. While it is true that there is money enough in the treasury to warrant us in making such excursions if it becomes necessary, good business management dictates that each volume carry its own weight, financially. Successful publications are those which have a surplus of income over every possible demand. The future may be planned without regard to cost. There is no reason why the JOURNAL should not be in that class. The opportunity is ours, through the advertising game, if we desire to take advantage of it. It is up to us.

Before we leave the subject, we desire to call attention to our *Index*. It has been compiled at considerable expense and no little time and trouble. It is almost letter perfect, and certainly very complete. Of course, every crow's offspring is the blackest, and we admit pride of parentage, but we insist upon it that this part of the volume is not the least important, and that it will prove exceedingly useful to any member who will have his volume bound and who will refer to it occasionally. In this connection, we have a few volumes bound each year for our own use, and will dispose of a number of them at the actual cost of production. This cannot be figured at this time. Any member who has saved the numbers for the entire year, may exchange them for bound volumes, the actual cost of binding alone being charged. The same style of binding is used now as in the first volume.

Finally, permit us to say that we profoundly appreciate the co-operation, forbearance and kindness, of our readers and contributors, who have made the volume what it is.

Administration of Iodid for Goiter.—For the prophylaxis for goiter, Marine and Kimble employed 2 gm. of sodium iodid given in 0.2 gm. doses daily for ten consecutive school days. This was repeated twice yearly. Marine and Kimble state that this amount of iodid is excessive and that 1 gm. of sodium iodid distributed over a longer period would be better. Sodium iodid may be prescribed in solution, a dose to a teaspoonful. If the patient be furnished with a small quantity of potassium iodid—say 1 gm.—and advised to mix it thoroughly with 1 kg. of ordinary table salt for occasional seasoning of his food at the table, he will get all the iodid that is necessary for prophylactic purposes and is an entirely unobjectionable manner.—*Jour. A. M. A.*, Aug. 18, 1923.

ORIGINAL ARTICLES

PRESENT-DAY GYNECOLOGY. *

BY

FRANK C. BEALL, M. D.,
FORT WORTH, TEXAS.

The nineteenth century was marked by many important discoveries and inventions, fraught with momentous import for mankind. The steam engine, the sewing machine, the cotton gin, the telegraph, the telephone, the electric light, improved farm implements and numerous other inventions gave an impetus to the progress of the world "the like of which had ne'er been seen before." And not the least important among these, was the discovery of the relationship which certain lower forms of vegetable and animal life have to human disease. It seems paradoxical when we think that the man who has done most for the development of medicine and surgery, Louis Pasteur, *was himself not a physician.* Under the impetus of the discoveries of the nineteenth century, civilization went forward by leaps and bounds.

Most of us are prone to think of civilization in terms of comfort, pleasure and luxury, and to compare our present-day methods of living—our steam-heated, electrically lighted houses, with gas stoves, refrigerators, electric fans, telephones and hot and cold water; our ease of travel by street car, automobile and electric and steam railways, and even by aeroplane; our rapid methods of communication; our many facilities for recreation and amusement; our educational system, museums, libraries, churches and all the other attributes of advanced modern life—with the crude conditions under which our forefathers lived "a few short years ago," to the great disparagement of the latter.

But civilization is a burden as well as a pleasure. Mankind, collectively, knows more and does more today, than a hundred years ago, but to keep abreast of the swiftly-moving tide of progress, the individual today must strive harder and longer to make and to keep himself fit, than did his forebears of another day. It is a far cry from the conditions that obtained at the time of the American Revolution, when a family could clothe itself (grow, spin and weave cotton into cloth), to present conditions where one man must grow cotton, another gin it and still others compress, transport, spin, weave and make the finished garment—not to mention the various middlemen in the process. And it's a far cry from the general merchandise store that satisfied

*Chairman's Address, read before the Section on Gynecology and Obstetrics, State Medical Association of Texas, Fort Worth, May 9, 1923.

the frugal wants of our grandfathers, to the great department stores of today.

No man today would try to run any great business and keep himself conversant with the details of all its departments. He must have men trained in the workings of its various parts—this one, an accountant, that one, a buyer; this, a traveling salesman; this, a machinist (if machinery is used), and so on, each man a specialist in his own field. *This is the age of specialism.*

In the development of our civilization, "the march of man athwart the pinnacles of time," the medical profession is always found in the vanguard of progress. For always opposed to human progress and doggedly contesting every inch of the way, are disease, pestilence and death, which must be vanquished before man can make any great advance. To cite but one instance in modern times: For more than fifty years, man's efforts to connect the Atlantic and Pacific Oceans were unavailing until the medical profession, personified in Major-General William Gorgas, laid low the pestilences that had made the Isthmus of Panama uninhabitable for white men.

Modern medicine and surgery is less than fifty years old and had its birth in the researches on the causes of fermentation of Louis Pasteur, a French chemist, who saw and proved a similiarity between the phenomena of fermentation and of certain infectious diseases. In the history of the world fifty years is a short time, but in the history of medicine the last fifty years has meant more than all the centuries that have gone before. Like most of the other important branches of human endeavor, the science of medicine and surgery has outgrown the capacity of any single mind to master. As we review the ever-increasing field of medical and surgical specialties and think of our grandfather's family doctors, we are reminded again of the comparison between the general merchandise store and the modern department store. *For medicine, indeed, this is the age of specialism.*

Gynecology is one of the oldest of medical specialties. I use the word "medical" advisedly, because gynecology developed as a specialty before there was any surgical gynecology in the modern sense of the word. It is amusing to read what some of the earlier gynecologists or obstetricians (for gynecology as a specialty developed as an offshoot from obstetrics) had to say of their surgical procedures, which consisted chiefly in the giving of douches through glass syringes, the use of pessaries and tampons, and the application of caustics to the cavity of the uterus and to the vagina. Nearly all the modern conceptions of the pathology of diseases peculiar to women, have developed in the last forty years. In a work on gynecology published in 1881 ("A Handbook of Uterine Therapeutics and Diseases of Women," by Edward John Tilt, M. D.), which I have recently seen, the author, while recognizing in some degree the effect of pregnancy in the production of displacements of the uterus, tries to explain most other pelvic disturbances, as arising from disease of the ovaries. In his introduction he says:

"The doctrine accepted by Dr. Bennet from the French school, was that the cervix was the '*fons et orgis*' of the most common uterine diseases; whereas, in my work on ovarian inflammation and diseases of menstruation, I claimed for the ovaries physiological influence over the same organ, and I have elsewhere summarized that work in the following propositions:

"1. That the recognized frequency of inflammatory lesions in the ovaries, and in the tissues that surround them, has a much greater practical import than had been hitherto admitted.

"2. That of all the inflammatory lesions of the ovary, those involving the destruction of the whole organ are rare, while most numerous, and therefore most important, may be ascribed to a disease that may be called subacute or chronic ovaritis.

"3. That as a rule, pelvic diseases of women radiate from morbid ovulation.

"4. That morbid ovulation is the most frequent cause of ovaritis.

"5. That pelvi-peritonitis is commonly caused by ovaritis.

"6. That blood is frequently poured out from the ovary and from the oviduct into the pelvic cavity.

"7. That subacute ovaritis not infrequently causes and prolongs metritis.

"8. That subacute ovaritis often entails considerable and varied disturbance of menstruation.

"9. That some chronic ovarian tumors may be considered to be aberrations from the normal structure of Graafian cells."

The last proposition is the only one that could be subscribed to today. In this work the word "gonorrhea" is not mentioned. I have said that the concepts and practices of the gynecologist of that time make amusing reading; but that the light was beginning to dawn, is shown by quotation further along from the same author. In his section on the treatment of misplacements of the uterus, after mentioning various measures that were in use for the treatment of prolapse, including globe pessaries, tow pessaries, sponge pessaries and cauterization of the vagina to produce adhesions and narrowing, he speaks of suture and says: "Dr. M. Sims seems to adopt a somewhat similar but less complicated process. His plan is to narrow the vagina by cutting off slips of mucous membrane at appropriate distances from each other, either on the anterior wall of the vagina, or the posterior, as the peculiarities of the case seem to indicate, and then bringing the cut surfaces together by silver sutures."

With the development of the science of bacteriology, and the insight it gave into the cause of many diseases, and with the impetus

imparted by the new knowledge to medical research and particularly its application to antiseptic and later aseptic surgery, gynecology quickly changed from a medical and quasi-surgical specialty to a *real surgical specialty*. It was recognized that none of the female organs of reproduction were essential to life, and the new surgery made their removal, when diseased, a relatively safe procedure. This, in itself, was a tremendous stride in advance, a veritable revolution in the treatment of pelvic diseases of the female. But most revolutions over-run themselves and, when the gynecologist realized how easy and how safe (?) it was to remove the ovary, or a pair of ovaries, he became overzealous (overzealous for the number of his cases, for his bank account, or to relieve his patients of the ills which often erroneously were ascribed to ovarian mischief) and much sound ovarian tissue was removed, to the great permanent injury of the patients. Unless it be the excision of the colon which was so much in vogue a few years ago, I know no parallel in the history of modern surgery to this ruthless destruction of the ovaries of American women, which took place in the last decade of the nineteenth century.

One of the great problems of the present-day gynecologist has been the correction of uterine displacements. The pessary has given way to plastic surgery. The mechanics of the supporting structures of the pelvic floor is very complex, and its intricacies have been difficult to understand. Indeed, it is doubtful if the question is at present fully understood. Be that as it may, much has been learned in the last thirty years—enough to enable the gynecologist today to afford relief to most women who suffer from faulty pelvic support and malpositions of the uterus, women who, up to thirty years ago, were doomed to lives of invalidism.

The present-day gynecologist, in order to serve his patients best, must be not only a gynecologist, but a general abdominal surgeon as well. Most surgeons, today, consider it the part of wisdom to remove the appendix (unless there is some good reason for not doing so) when the abdomen is opened for any cause. So the gynecologist must remove appendices. Intestinal adhesions, even to causing obstruction, occur frequently as a result of pelvic inflammatory disease, and for their relief the gynecologist must do intestinal surgery. Gall-stones are often found associated with, and probably secondary to, pelvic inflammations. Gall-stones are not infrequently discovered in the course of pelvic abdominal operations in patients who have had very few upper abdominal symptoms. If the best interests of such patients are considered the gall-stones will be removed with the one anesthetic. Infections of the urinary tract are sometimes due to gynecological conditions, and the gynecologist should be prepared to deal with any exigency that may arise, pertaining to the bladder, ureter and kidney. In this connection, I might call attention to the possibility of the ureter being kinked near its lower end by a pull of the uterine blood vessels in cases of descensus of the uterus. This is a possibility that I have never seen mentioned in medical literature, yet my own observation leads me to believe it a not infrequent source of kidney mischief. Indeed, I think I have brought about the cure of a number of kidney infections by correcting, or removing, a misplaced uterus.

The gynecologist must of necessity be a general abdominal surgeon; and the converse is equally true, an abdominal surgeon should be a gynecologist. A short while ago a patient was brought to me with an attack of acute appendicitis. The patient was a married woman, thirty-five years old, the mother of several children. She had been suffering for several years with dull, heavy, dragging pains in the pelvis. An examination showed that she had a retroverted uterus and a markedly relaxed perineum. She was operated upon through a midline incision, her appendix removed and her round ligaments so shortened as to bring the uterus into place. Three days later, with a local anaesthetic, her perineum was repaired. Surgical pelvic conditions are frequently found associated with abdominal diseases and the abdominal surgeon should be prepared to deal with these in connection with his other work.

I have said that gynecology developed as an offshoot from obstetrics. This is the reason the two subjects have been associated in our medical schools and in our medical societies. This is why some of us who are here today and who limit our work to surgery, are appearing on the program with physicians who are interested wholly in obstetrics. The whole nature of gynecology has changed in recent years; and in the institutions in which the lines are still drawn dividing the cases that are gynecological from those that are surgical, the patients are not getting what they are entitled to in the way of service. Gynecology, as a specialty, has served its day of usefulness. It is now simply a branch of surgery that cannot be rationally separated from abdominal surgery. In the State of Texas, there is not, so far as I know, a single physician who claims to be a gynecologist who does not practice general surgery as well.

I believe that the State Medical Association of Texas should divorce gynecology from obstetrics and wed it to surgery. This hybrid section should be abolished, and its time divided between the obstetrical and one of the other useful specialties. The gynecological papers should then appear *in the surgical section where they rightfully belong.*

THE TREATMENT OF PROLAPSED OVARIES.*

BY

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The purpose of this brief paper is to direct attention to a condition which deserves more consideration than has been accorded it. While prolapsed ovaries are not encountered frequently enough to merit classification among the common gynecologic diseases, the fact remains that they are sufficiently common to command more space in text books and more discussion in our meetings, than has been accorded them in the past. I am mindful that volumes have been written, and operations by the dozens devised in displacements of the uterus. In none of these works is any thing said, stressing the relationship of the ovaries to the symptoms, nor in any of the operations is particular attention paid to replacing the ovaries.

A recollection of the sensitive nature of the ovaries and the insensitiveness of the average uterus, naturally arouses the inquiry as to which of these structures really furnishes the suffering where a displacement of all the internal female generative organs exists, the ovary or the uterus. During menstrual life, with a functioning ovary, young people are often temporarily invalided by a slight congestion of the ovary, producing local pain and excruciating reflex disturbances too numerous to mention, but certainly everything from vomiting to hysteria, whereas in later life a procidentia may exist with no more discomfort to the patient than an inability to empty the bladder without first restoring the displaced uterus and bladder to their normal position. These extreme cases, it seems to me clearly illustrate one fact, that where suffering results from displacement of these organs, it is far more rational to pay attention to restoring the ovary than the uterus to its normal lodging place.

In my experience, none of the standard operations for retrodisplaced uteri insure a comfortable resting place for the ovaries, unless additional efforts are directed toward the ovaries themselves—and this is usually not done. In this fact rest some of our failures to relieve the patient. While prolapse of the ovaries is usually secondary to some other abnormal condition, such as a retrodisplaced uterus, pressure from tumors, etc., it is not necessarily a secondary condition, but occurs unassociated with any other pathology, and usually, if not always, provokes a chain of symptoms as distressing as any other pelvic condition, not infrequently rendering the woman unfit for household duties and marital relations.

The first patient to impress on me this question and its importance, twenty years ago, was a young lady in her 'teens, a virgin and an athlete. Her vocation was that of a contortionist and fancy dancer. Her history was negative, except that pain in her pelvis made it necessary that she cease her performances as an actress, and the physical examination revealed that both ovaries were in the Pouch of Douglas. She had no uterine displacement at all, and was relived by operation. This case, likewise one of an extreme nature in its history, proves that prolapse of the ovaries arise primarily, and that it is not wise to ignore this condition simply because the woman may prove to be without children.

Again I wish to stress this condition, because a prolonged displacement of the ovaries results in enlargement, either from congestion or cystic formation, and such organs may be needlessly removed instead of replaced to a normal position, in the surgeon's desire to certainly relieve the pelvic pain. More ovaries are removed than is justifiable by the pathological findings, and I believe this measure will save many of them, and, in time, assist the surgeon in effecting a cure.

Diagnosis is easily made by combining a careful history with a vaginal examination. Most of these patients complain of a bearing down in the pelvis, with a pulling from either side of the pelvis, and pain down the thighs. At times pain is intense and provokes nausea or vomiting, particularly at the menstrual period. Defecation and urination are uncomfortable because of the straining incident thereto. Coitus is not indulged in with enthusiasm, and is sometimes excessively painful. Sitting upon firm objects is likely to provoke pain, and the patient feels like she is sitting upon a "tender organ." Dancing, jumping and other violent exercises, are avoided, and tight lacing is uncomfortable. Finally ensue the symptoms most characteristic and distressing, and all out of proportion to the patient's general appearance (for she is usually well nourished and of good color.) The symptoms are those referable to the nervous system. They vary from an irritable nature to a hysterical paroxysm. Suffice it to say

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that the patient becomes a neurasthenic and complains of everything imaginable, and yet, withal, looks well.

The physical findings, through vaginal examination, are, a small, freely-movable exquisitely tender mass, which does not dent on pressure; firm pressure results in gastric discomfort or even nausea; usually, both ovaries may be felt. Small fibroids and fecal masses in the lower bowel, are the only possible sources of error—which are slight.

The condition is a mechanical one and palliative measures are futile; therefore, I desire to describe an operation devised by Dr. C. C. Barrows of New York City, whom I witnessed perform his first twenty operations of this kind. Dr. Barrows called the operation "shelving of the ovaries," and claimed to place them upon the top shelf of the broad ligament, and hold them there. A small opening is made in the broad ligament, just beneath the Fallopian tube, and the ovary is carried through the opening and attached to the peritoneum of the anterior surface of the broad ligament, suturing the opening in the broad ligament, so that the ovary could not return, even though not sutured. Care should be taken to avoid kinking or twisting the tube. Next the infundibulo-pelvic ligaments are shortened, and if indicated, attention should be given to other abnormalities in the pelvis. I have employed this operation since 1902, and consider it both simple and meritorious.

In a few cases, I think it is an improvement to make the opening in the broad ligament so that the ovary is carried in front of the round ligament, as well as the Fallopian tube, and there sutured. This places the ovaries on the anterior instead of the posterior surfaces of the broad ligaments, and their anchorage to the round ligaments makes them more secure.

INSULIN IN TISSUES OTHER THAN THE PANCREAS.

C. H. Best and D. A. Scott, Toronto (*Journal A. M. A.*, Aug. 4, 1923), have been able to prepare active extracts from the submaxillary, thymus and thyroid glands and from liver, spleen and muscle tissue. These extracts have been repeatedly tested on normal rabbits and have consistently produced a marked lowering of the blood sugar of these animals. A large dose produces typical insulin convulsions in the rabbits. The convulsions are alleviated by the administration of dextrose. The number of units obtainable from 1 kg. of thymus or submaxillary gland tissue exceeds that originally obtained from pancreatic tissue. This yield is, however, only a small fraction of that obtained when pancreatic tissue is treated by the present procedure. The authors have secured results which tend to indicate that this substance, which we believe to be insulin, is excreted in somewhat greater amounts by pregnant women than by normal men. Insulin is present in every tissue they have investigated.

IS TOTAL HYSTERECTOMY THE OPERATION OF CHOICE IN UTERINE FIBROIDS, OR OTHER CONDITIONS REQUIRING HYSTERECTOMY?*

BY

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In attempting to answer this question, one must consider morbidity as well as mortality. If the mortality was the same in a total as in a subtotal hysterectomy, then the answer would be in the affirmative; but if one will take the trouble to look up the statistics, especially in hospitals where various surgeons perform these operations, the answer will necessarily be that it is not the operation of choice in a large percentage of cases.

Polak claims that his mortality in total hysterectomies is only 5 per cent higher than his subtotals; he states that it has been only 2 per cent. Recent articles have advocated the total operation as the one of choice. The authors base their opinion chiefly upon two factors; namely, that it will lessen the morbidity, and that it will prevent the occurrence of carcinoma later in the remaining part of the cervix. Some authors give their own statistics, but they do not give the mortality recorded in the hospitals where various surgeons operate. A great many individuals have low mortality rates in either type of operation, and good gynecological surgeons have a much lower mortality than that of the whole. I therefore, contend, and hope to prove later, that gynecological teachers should not teach or instruct those who are looking to them for guidance, that a total hysterectomy is as safe as a subtotal. A panhysterectomy is a more formidable operation, technically, than a subtotal operation, and it must follow that the death rate is higher.

The most important factor to consider in the selection of the type of operation, is the immediate mortality. The next important factor is the occurrence of cancer later, when the cervix is left, which I believe is certainly under 2 per cent. Winter, quoted by Frank, states that in 1270 cases of fibromyomata uteri, 2 per cent had carcinoma of the cervix. Schottlaender, Spencer, Noble and Cullen, report approximately the same, that about 2 per cent of fibroid tumors of the uterus show a coexisting malignancy. Polak states that he has collected 256 cases, in which cancer of the cervical stump has developed after subtotal hysterectomies for fibroid tumors, but

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he fails to state how many subtotal operations have been performed.

If a painstaking history is obtained, a thorough physical examination is made, and a routine microscopical examination is carried out when indicated, one will be more careful in his selection of cases in which to do the total operation, and the recurrence of carcinoma will be less frequent. Two years ago a patient was referred to me, who had a large cauliflower growth filling the vagina, which was bleeding constantly. About five months previously this patient had submitted to a subtotal hysterectomy. She evidently had some signs of the impending trouble at the time and should have had a total hysterectomy.

Statistics show that the mortality in total hysterectomies performed by different operators, in various hospitals, are at least 9.44 per cent, while the mortality in subtotal operations are 5.29 per cent. Therefore, if malignancy occurs later, at least four lives out of every hundred will be saved by doing the subtotal operation. A large percentage of fibroid operations are upon persons before the recognized cancer age; but granting that 2 per cent develop cancer later in life (which I believe is too large a percentage), is it not much better for them to recover from a subtotal operation, live a few years and later die a cancerous death, than to have died at the time of operation.

In March of this year, I removed an adenocarcinoma of the cervix which followed a subtotal operation for fibroid, about ten years ago. A total operation at that time would have been hazardous to the patient, due to the presence of subacute salpingitis and parametritis. This patient had lived for ten years in good health before the occurrence of the carcinoma. The cervix was removed early in the malignancy and this fact, plus deep X-ray and radium therapy may yet save her from a cancerous death.

In all cases of suspected malignancy, a panhysterectomy should be the operation of choice; in a badly lacerated or badly infected cervix, a total operation should be the rule. In women approaching or past the menopause, the total is the operation of choice. The exceptions to this rule should be in cases where inflammatory conditions are present, with marked fixation of the uterus, due to infiltration of the structures surrounding the uterus, or to large, adherent fibroids in the young, with a normal-appearing cervix. Here I have found a supravaginal operation, with amputation of the cervix, if diseased, very desirable. The principal reasons given for advocating total hysterectomy are, the danger of the remaining cervix becoming malignant, and that the patient often continues to complain of a leukorrheal discharge, which is of more importance to the patient than the tumor itself.

Some operators dissect out as much as possible of the cervical endometrium in doing a subtotal operation, but it is almost impossible to dissect out all of the endocervical tissue, so as to prevent a leukorrhea. If the endometrium is dissected out, they believe that it reduces the chances of a carcinomatous development. This is true only to a limited extent, as it has been proven by Peterson and others, that two-thirds of cancers of the cervix are true epitheliomata, developed from the squamous epithelial cells lining the vaginal portion of the cervix. Cullen says that 74 per cent of the cervical cancers are of the squamous type. Therefore, any surgeon performing a supravaginal hysterectomy with amputation of the cervix, in preference to excising the endocervical tissue, will reduce the possibility of a subsequent malignancy, and, of course, cure the leukorrheal discharge.

The following statistics give valuable information bearing upon the mortality of hysterectomies in myomata, and the occurrence of malignancy in myomata of the uterus: In 6,180 cases reported by Kelly, Noble and Cullen, cancer of the cervix was found in only 1.29 per cent of the cases. Deaver reported 750 operations for fibroids, with a 2 per cent mortality. Bland-Sutton, in 1906, reported 348 hysterectomies from fibroids, found in various English hospitals, with a mortality of 11 per cent. However, he reported 130 successful cases before he had a death. Dorsett, in 1911, reported 140 operations, with a 6 per cent mortality. Guthrie, in 1917, reported 373 cases, with a mortality of 1.37 per cent. Darnall, in 1915, reported 161 cases, with a 2 per cent mortality. At St. Bartholomew's Hospital, 547 cases were reported, with a 3.7 per cent mortality, and Le-Toy-Bruin reported 262 fibroids with 1.53 per cent mortality. The above mortality combined will average about 3.33 per cent, but doubtless most of the operations were subtotal hysterectomies.

Bland-Sutton reported that 10 per cent of fibroids in women past 50 are malignant. Evans found 1.3 per cent of malignancies in 4,000 specimens. Geist found that in 250 cases of myomata, 4.8 per cent were malignant. Noble, in summarizing 4,480 cases of uterine myomata, found malignancy in the body in 1.54 per cent, and in the cervix in 1.29 per cent, equalling 2.8 per cent, while 337 cases by the same writer gave a 4 per cent malignancy. Kelly and Cullen report that in 1,700 myomata, malignancy was present in 4.2 per cent, as follows: 1.3 per cent in the

cervix; 1.7 per cent in the body; 1.2 per cent, sarcoma. LeRoy-Bruin, for nine years at the Woman's Hospital, found cancer in less than 4 per cent of 1,760 cases. Tracy reports 110 fibroids, with 12 per cent malignant. The same author, in 1908, summarized 3,561 cases with 4 per cent of them malignant. These figures combined, will show that the percentage of malignancies occurring in fibroids is about 3.80.

The above figures are very much at variance, 12 per cent in one report and .4 per cent in another. According to Cullen, Frank, Noble and other recent observers, 2.5 per cent or less, is nearer correct. If cancer is present in 3.8 per cent of all fibroids, then a total operation is the operation of choice, among experienced surgeons, but it should not be advocated by teachers as the operation of choice, when the combined mortality of various surgeons reaches the appalling figure of 9 per cent plus.

As the title of this paper designates, I am considering hysterectomies, not only for fibroids, but for all other causes. Where hysterectomies are performed for conditions other than fibroids, one will find that there is the same difference between the mortality in total and subtotal operations.

In the records of several hospitals, I find quite a discrepancy in the mortality figures, for the past two years, when comparing the two types of operations. Out of 242 total hysterectomies the mortality is 9.44 per cent, while in 585 subtotal hysterectomies, the mortality is 5.29 per cent. In contrast with the above, where the operations were performed by trained surgeons, the percentage is much lower. Balfour gave a mortality of 3.1 per cent in 607 total hysterectomies, in 709 subtotals, 2:5 per cent, and in 347 vaginal hysterectomies, .8 per cent. In my last 235 hysterectomies, there have been 163 subtotal hysterectomies, with a mortality of 2.6 per cent and 55 total hysterectomies, with a mortality of 6 per cent. The remaining were vaginal hysterectomies, with no mortality. The gross mortality (above) in 1,457 subtotal hysterectomies, which have been performed within the past two or three years, is 3.3 per cent. In 1904 total hysterectomies, the gross mortality has been 4.9 per cent. The difference in the above mortality in the two types of operation is very small, but one life plus would be saved in favor of the subtotal. Where the work is not done by a well trained corps of surgeons, or by specially qualified surgeons, a much larger number of lives are saved by doing a subtotal in preference to a total hysterectomy. More than four lives out of every hundred will be lost by unskilled surgeons in performing a total in preference to a subtotal operation, instead of one plus where performed by able surgeons. It is much better to save these four patients even if they do have some morbidity, or carcinoma in the remaining cervix later in life, than to have them die from the operation.

The cases of my patients who died following hysterectomies are analyzed as follows: In a case in which a supravaginal hysterectomy had been performed, the patient did well until the fifth day, when she sat up in bed and dropped dead. Death was probably due to an embolus, which is something that we cannot control. In a case of panhysterectomy, which was done because of multiple fibroids, with infection of the ovaries and a double pyosalpinx, death resulted from peritonitis. In another supravaginal operation, the patient was a very obese woman who had undergone three previous operations. The uterus was wedged in the pelvis and there were extensive adhesions of all abdominal viscera, resulting in a tedious operation. This patient died in about five days, from total suppression of the urine. In still another supravaginal case the patient had a large fibroid, infected ovaries and bilateral pus tubes. She died from peritonitis. Another case was that of a negro woman on whom a panhysterectomy was performed for a far-advanced carcinoma. This patient should never have been operated upon, but should have been treated with radium and x-ray. (Radium was not available for this case.) In still another case, the patient was very fat and 59 years of age. She had infected uterine fibroids and carcinoma, complicated by cholelithiasis. A total hysterectomy and cholecystectomy were performed at the same sitting. The patient died from urinary suppression. Hence it is seen in the analysis of these cases that few of them should really be recorded as fibroid deaths.

The mortality rate is far from what it should be, except when able gynecological surgeons operate. Bland-Sutton recorded an 11 per cent mortality in English general hospitals, where the work was done by various surgeons, which is higher than in America under similar circumstances. Sutton failed to state whether total or subtotal hysterectomies were performed. These percentages could be elaborated upon but they serve the purpose of showing how far apart the figures are in comparing the death rate of skillful surgeons, and those not so well prepared. Doubtless another reason for a higher mortality rate in total hysterectomies, is that this operation is performed only in very suspicious and grave cases. I am performing more panhysterectomies each year as the operation of choice, and my previous mortality

of 6 per cent is being very much reduced, due to better judgment in deciding which should have total and which subtotal operations, and due also to better technic. I believe that my death rate in the future will be much nearer to 2.6 per cent, which is my present mortality for subtotal hysterectomies. Carcinomata of the cervix that were formerly operated upon are now being treated with radium, almost exclusively.

CONCLUSIONS.

1. Total hysterectomy is the operation of choice in all cases of suspected malignancy of the body of the uterus and in badly lacerated or diseased cervices.

2. A total hysterectomy is the operation of choice in uterine myomata only in women approaching or past the menopause or with diseased cervices.

3. In uterine myomata in young women, with apparently normal cervices, especially if the patient has a large adherent fibroid, making a total operation hazardous, a subtotal is the operation of choice.

4. When an abdominal hysterectomy is indicated, with extensive inflammatory changes surrounding the uterus or when the pelvic diaphragm is fixed and there is a diseased cervix, a subtotal, with amputation of the cervix, is the operation of choice.

5. Vaginal hysterectomy is the operation of choice in procidentia, or in the fat and aged with vaginal relaxation and some prolapse. Vaginal hysterectomy is attended with a very small mortality rate in properly selected cases.

6. The fact that at least four lives out of every hundred are saved, when the subtotal instead of the total operation is done by the average surgeon, makes it the operation of choice.

7. Irrespective of the low mortality rate of total hysterectomy, in comparison with subtotal when performed by experienced surgeons, the fact is not altered that gynecological teachers should teach, as they have always taught, that subtotal is the operation of choice in uterine myomata.

8. After deciding that hysterectomy is indicated, one must take into consideration one's own surgical ability, the complications that may increase the mortality, and the probability of the future occurrence of carcinoma of the cervix.

Treatment of Pernicious Anemia.—Arsenic and blood transfusion are the two established forms of therapy in the treatment of pernicious anemia, though neither is curative. Arsphenamin in doses of 0.03 to 0.06 gm. intramuscularly at intervals of days or weeks has been found useful in some cases, though it has failed in others.—*Jour. A. M. A.*, Feb. 9, 1924.

THE STURMDORF OPERATION: ITS TECHNICAL ADVANTAGES OVER OTHER METHODS IN CERVICAL PATHOLOGY.*

BY

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As a preoperative aid to the special technique of the operation in cervical pathology, one must have an intimate knowledge of the histological structures of the cervix and cervical canal. The success of a gynecoplastic operation depends not only upon the technical skill of the operator, but upon his clinical ability to estimate the local and systemic factors that will dominate the immediate and remote effects of his surgical procedure.

HISTOLOGY.

The uterus is composed of a mucous, a muscular and a peritoneal coat. The mucosa of the body of the uterus and cervix is lined by a single layer of columnar, ciliated, epithelial cells; these are somewhat higher in the cervix than in the corpus. In the cervix of the virgin, the ciliated, columnar epithelium extends as far as the external os, at which point it usually changes to a stratified, squamous epithelium. In the multiparae the squamous epithelium extends into the cervical canal, and may be found, with occasional exceptions (islands of ciliated epithelium), throughout the entire lower third. This arrangement is subject to considerable variation, so that even in children, the lower portion of the cervical canal may sometimes be lined by stratified epithelium. In the body of the uterus, the submucosa is composed of a reticular connective tissue, resembling in structure that of the mucosa of the intestinal tract. The mucosa of the cervix, containing more fibrous tissue, is somewhat denser.

In the cervical canal the mucosa of the anterior and posterior walls is elevated to form numerous folds, which extend laterally from larger median folds. The mucosa of the body of the uterus and of the cervix, contains numerous branched tubular glands, which extend through the mucosa and for a short distance into the muscular layer. They are lined by ciliated, columnar epithelium resting on a basement membrane. Besides these glands, the cervix contains peculiar short crypts with lateral sacculations, the lumina of which are wider and the epithelium higher, than in the cervical glands. The glands and crypts extend as far as the internal os. In the mucous membrane of the cervical region are found peculiar closed sacs of varying sizes, lined

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by simple cylindric epithelium, the so-called ovula nabothii, which probably represent cystic formations.

There are three layers of muscular tissue, both in the corpus and cervix uteri, an inner longitudinal, a middle nearly circular, in which the principal blood vessels are found, and an outer longitudinal. The inner and outer layers are known, respectively, from their position, as the stratum mucosum and stratum serosum; the middle and more vascular is the stratum vasculosum.

PATHOLOGY.

Chronic endocervicitis or endotrachelitis, is the most prevalent as well as the most familiar objective manifestation among gynecological disorders. It constitutes a clinical entity which may menace the integrity of the entire gynecic system. The disparity between manifestations displayed in uterine disorders below and those above the internal os, is most striking. The cervical mucosa shows a marked susceptibility to infection, while the endometrium of the body of the uterus seems apparently immune. One theory advanced for this phenomenon is that the reaction of the cervical mucosa is alkaline, and numerous bacilli find in this alkaline, mucous medium a congenial habitat; and, furthermore, the uterus not having a true submucosa, the enemy finds little, or no opposition at this point of entrance, to its development, with subsequent infection and destruction. The mucous membrane of the cervix is very different from that of the fundus. In the endocervix, as heretofore described, the membrane is composed of complicated racemose glands, with small ducts emptying into the cervical canal. The epithelium lining the cervical glands is of the high cylindric goblet-cell type and secretes a true mucus.

Toward the internal os, or the upper two-thirds, the mucous membrane becomes modified, and the high columnar epithelium becomes of lower type, losing its cilia and gradually changing to squamous epithelium close to the external os.

The endometrial mucous membrane contains simple tubular glands, lined with low cuboidal epithelium. The surface epithelium of the canal is of same type, but ciliated. The endometrium produces a thin secretion, which is not a true mucus; hence the endocervix and endometrium are unlike, both histologically and in their physiologic functions. They also differ in the manner in which the same infection may affect them. The internal os, acting normally as a sentinel of great strength at the portals of the corpus uteri, might also be responsible, theoretically for the usual immunity to infection of the uterine mucosa.

ETIOLOGY.

Chronic endocervicitis is primarily an infection of the deeply situated terminal tufts of endocervical muciparous glands, which may harbor these bacilli for years. As a result, there occurs what is commonly recognized as a cystic degeneration of the nabothian glands.

While the gonococcus is by far the most prevalent provocative organism in chronic endocervicitis, streptococcic, staphylococcic, and colon bacillus infections are not infrequent findings, in the order enumerated. Congenital mal-development of the cervix, more especially when traumatized by cauterizations, dilatations, curettage or birth injuries, is the greatest predisposing factor in chronic endocervical disease. In parous cervices, with infected lacerations, the symptoms emanate from the infection, and not from the tear in the cervix. Nevertheless, surgeons usually repair the rent, giving but slight attention to the still remaining infection. Many surgeons, having failed in their treatment, have subsequently abandoned all operative attempts to ameliorate this condition.

TREATMENT.

To cure chronic endocervicitis, the entire infected area of the cervical mucosa must be removed. The inference that endocervicitis as the direct end-result of lacerations from childbirth, abortions, etc., can be cured by excision and suturing of the cervical tear with its attending cicatricial distortions must be ruled out as a faulty conception of its etiology.

It is obvious that the curative scope of this procedure is limited to these cases in which the infection has not extended beyond the lines of the original tear—a rare condition. The functional disturbance, following lesions which demand surgical intervention, signalizes the invasion of the cervical mucosa, from the external to the internal os. Therefore the conservation of the infection beyond the cervical lacerations, perpetuates the whole pathological process. Whether we accept or reject this theory of limiting trachelorrhaphy as a curative measure, we must consider the cancer possibilities of the chronically inflamed cervical areas beyond the range of repair.

Ewing, in a recent publication, affirmed that chronic catarrhal endocervicitis precedes cancer in a large percentage of cases and that the cervical erosion is the most definitely established lesion known to initiate cervical carcinoma. He had studied three instances of precancerous polyps in eroded cervices which showed metaplastic overgrowth and beginning invasion of the stroma by adenocarcinoma.

In cervical lacerations of long standing, accompanied by cystic degeneration of the nabothian glands and marked hyperemia, Noble declared that cervical amputation was to be preferred to trachelorrhaphy, for the condition left by the latter was far from satisfactory; and furthermore, that all cervices deficient in bulk from underdevelopment or irregular multiple tears, presented insufficient tissue for normal reconstruction by this method of technique.

From a physiological, pathological, clinical and technical standpoint, trachelorrhaphy as a curative measure in endocervicitis, is a fallacious theory. A simple repair of the cervical tear finds its only *raison d'etre* in the

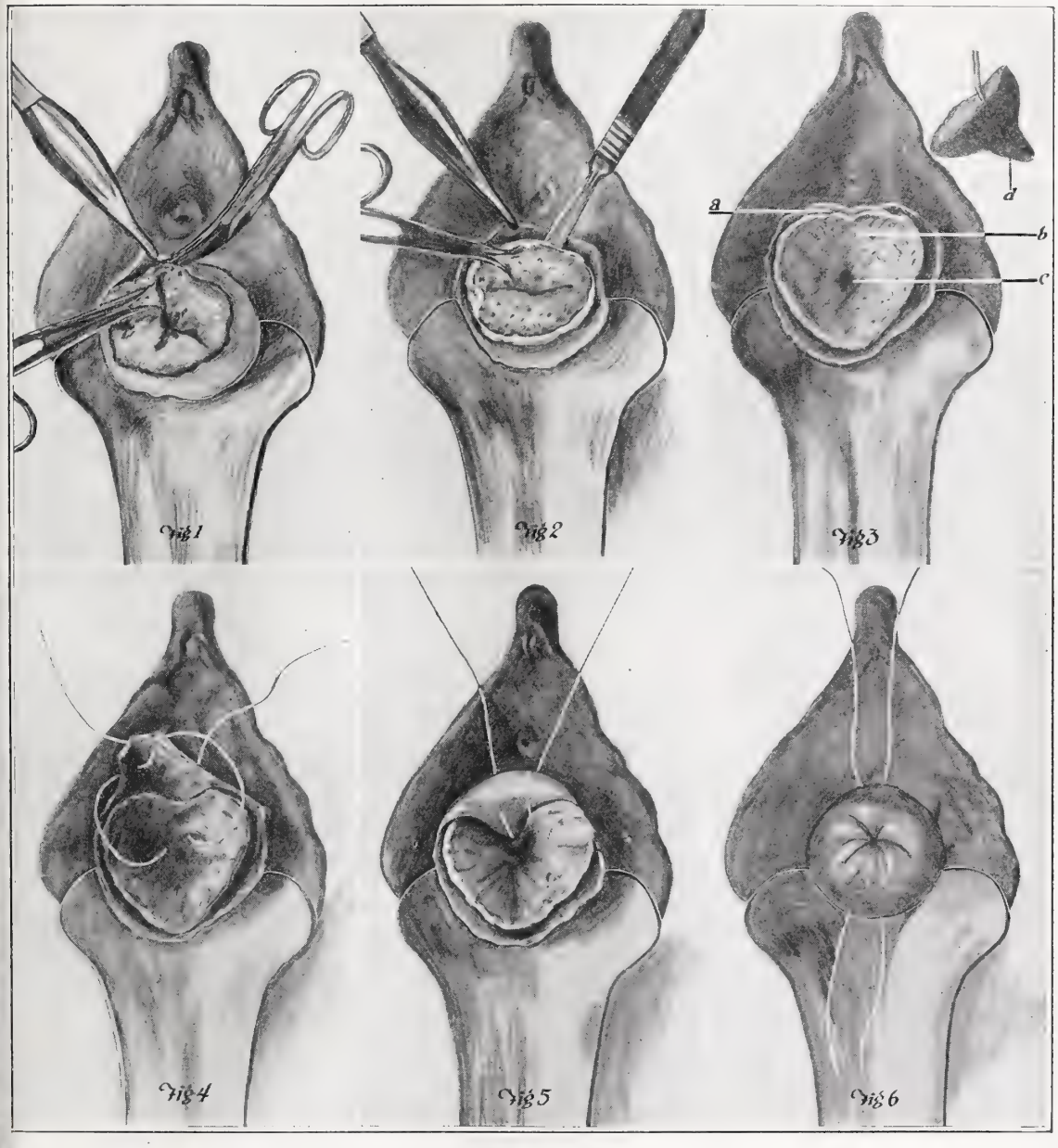

FIG. 1. Outline edge of flap on vaginal sheath of cervix, long line of demarcation between normal vaginal and diseased endocervical mucosa.

FIG. 2. Mobilization of cylindrical vaginal flap to vaginal fornices. Excision of endocervical cone.

FIG. 3. (a) Cuff of vaginal mucosa. (b) Denuded funnel of cervical muscularis mucosa. (c) Internal os. (d) Excised cone of endocervical mucosa.

FIG. 4. Suture of 40-day chromic gut, passed transversely through vaginal surface of anterior flap, 1-8 inch from edge, and embracing 1-8 inch of tissue. Needle carrying right free end of anterior suture, emerging in anterior vaginal fornix at base of flap. Left free end of suture passed upward, forward, and to left, both ends emerging in anterior fornix at base of flap, 1-8 inch from median line.

FIG. 5. Traction on two anterior sutures draws anterior flap into cervical cavity, and approximates its edges to circumference of denuded internal os.

FIG. 6. Anterior and posterior sutures drawn taut and tied; flap in place, lining cervical cavity to internal os.

slight influence upon the muscular mechanism of the cervix, while the transverse ablation destroys this mechanism completely.

Circular amputation of the cervix, with union of its vaginal and endocervical mucosa, defeats its purpose by disregarding the physiology and structure of the cervical tissue. According to an established law in myodynamics "the extent of contractile shortening in a given muscle depends upon the arrangement and number of its contractile units." The longer the muscle, the greater the number of its contractile units. In the uterus, the peripheral fibres, traversing the greater circumferential area, are necessarily much longer than the central fibres that entwine the uterine cavity. It follows, therefore, that on ablating the cervix in the usual manner, all the muscle stumps are made to terminate at the same level. Because of the extreme friability of the endometrial edge, sooner or later the flaps separate and expose a raw, beveled, cervical stump which heals by granulation. Some never heal completely; when they do, and the patient comes to child birth, the annular cicatrix, incapable of physiologic expansion, presents a very marked dystocia. The cases that do not heal present raw areas, which, becoming infected, practically reestablish the original lesions with the whole train of subjective and objective disturbances that first prompted surgical intervention.

SUMMARY.

1. Briefly stated, the cure of chronic endocervicitis, whether in a nulliparous or a multiparous cervix, according to the Sturmdorf technique demands: (a) Enucleation of the entire endocervical mucosa, from external to internal os, with preservation of the muscular structure; (b) accurate relining of the denuded cervical canal, by a cylindrical cuff of its vaginal sheath.

2. The following method fulfills the physiological demands, meets the pathological indications and obviates the technical shortcomings enumerated: (a) The outlining and free liberation of an ample cuff of mucosa from the vaginal sheath of the cervix; (b) enucleation of the entire endocervical mucosa to the internal os, with the preservation of its surrounding muscular layer, and (c) sutural inversion of the vaginal cuff into the denuded cervical cavity.

Frozen Toxin-Antitoxin.—Students in two Massachusetts institutions were inoculated with diphtheria toxin-antitoxin mixture, and thereafter, forty-four suffered severe local and constitutional reactions. Investigation revealed the fact that the serums used had been subjected to extremely low temperature and later thawed before injection. It was discovered that freezing dissociates the combination of toxin and antitoxin.—*Jour. A. M. A.*, Feb. 16, 1924.

UTERINE PROCIDENTIA: A SURGICAL AND VAGINAL ROUTE PROBLEM.*

BY

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Uterine prolapse is but a pelvic type of hernia, resulting from a series of fascial and muscular plane faults. The descensus of the pelvic viscera creates a morbid state that demands either a mechanical or a surgical form of treatment. The well-known and proven points in the handling of an inguinal hernia, the re-approximation of the separated fascial and muscular planes, rule in the surgical correction of a prolapsed uterus. Trelet, many years ago, grouped cystocele, rectocele and uterine procidentia, under a common heading. He stated that the condition developed in a glacier-like sequence.

The proper handling of a case of uterine procidentia depends upon the consideration of the patient's age and the extent of the pathology present. A study of the literature shows that the age incidence covers the periods of life from infancy to senility. Faults in the pelvic dome are congenital to a great extent and they are embryological in their entirety in the infantile, adolescent and virginal type of cases. An occult type of spina-bifida has been proven by the *x*-ray to be a frequent concurrent condition in the virginal type of case. Many procidentiae, developing during the early parous stages of women's existence, have been proven to accompany a hiatus of the upper sacral or lower lumbar vertebrae. Another congenital type is in the condition of which Glenard's posture is the outward sign. The symptom complex of this type of case is as follows: Stooped posture sagging shoulders; forward-bending body hands on anterior surface of the hips instead of laterally; protruding, relaxed anterior abdominal wall; flat chest; an exaggerated tipped or straight-contoured bony pelvis; ptosis of a portion or a large part of the abdominal viscera; musculo-fascial weakness, and infantile uterus.

This postural syndrome creates a pelvic musculo-fascial weakened state, the manifestations of which are uterine retroversion, retroflexion and, ultimately, prolapse. Chronic constipation produces a dilated rectal ampulla, which presses against the sacro-uterine ligaments, stretching thus their embryologically weak fascial strands, separating one ligament from the other, creating a forward advancing cervix and, consequently, a retroverted uterine fundus. Sudden intra-abdominal forces occurring during the straining efforts of constipated defecation, or during th

*Read before the Section on Gynecology and Obstetrics, State Medical Association of Texas, Fort Worth, May 9, 1923.

moving of heavy objects, may advance a retroversion into a descensus in the congenitally defective type. The line of force is against the anterior uterine surface in the retroverted state of the uterus, instead of against the posterior uterine wall.

A neglected, full bladder, occuring frequently in rachitic school girls, or the posturally weak young office women, has a tendency to separate, or at least weaken the fascial planes of the anterior vaginal wall, with a resulting cystocele. A full bladder, pressed upon by the intra-abdominal forces, and anterior abdominal wall contractions during sudden efforts, are additional etiological factors producing cystocele in adolescents and virgins. Cystocele at this period of life, and in this type of congenitally weak young women, creates the elongated anterior cervical lip, and aids in retroverting their infantile type of uterus. The plane of anterior vaginal wall attachment to the cervix, is lower down than the plane of the posterior vaginal wall attachment. Cervical hypertrophy, secondary to cystocele in the virginal type of case, is thus explained.

The inferior pelvic diaphragm, composed of the triangular ligament, sheathing between its two fascial layers, the deep transversus perinei muscle, holds the virginal and non-parous type of perineum high up, practically under and nearly on a level with the inferior border of the symphysis pubis. The elevating force of the triangular ligament is aided by the pubo-rectal arms of the levator ani, constrictor vaginae and erector clitoridis muscles. The vagina is thus held at its introitus in a high position, just below the symphysis, its axis strait passing posteriorly and downward, to meet the uterine axis at an obtuse angle.

Many fascial and muscular factors maintain this virginal physiological state. The fascial covering of the obturator internus muscle is but a pelvic continuation of the iliac fascia. At the inner edge of the muscle, this fascial sheath is increased into a dense, tendon-like line, denominated the fascia tendinosa internalis, or fascial white line. The latter is attached posteriorly to the spine of the ischium and anteriorly to the lower postero lateral surfaces of the symphysis pubis. This fascial structure serves many purposes throughout its length. It gives attachment to the outer border of the levator ani muscle, and from its superior surface spreads the levator ani fascia and the visceral fascia. The former passes under the base of the bladder, aids in developing the recto-vesical fascia, sends strands into the sacro-uterine ligament, sheathes the levator ani muscle, covering its pubo-rectal edges, and then blends in the perineal central line with the triangular ligament to form the median raphe of the perineum. The visceral fascia, funnel-like, circumscribes the vagina, bladder and rectum and imbricates its strands with the other fascial coverings of these structures. By their combined action these fasciae restrain, support and physiologically control the dilation of the vaginal and rectal tubes, and assist in the compression of the full bladder.

From the antero-inferior end of the fascial white lines spring the cardinal ligaments of the bladder, the pubo-vesical ligaments.

From the central bladder area of the fascial white line and from the lateral and vesical ends of the essential pubo-vesical ligaments of the bladder, spring two layers or blended strands of very strong fascial structures, denominated by Koch as the cardinal, and by Mackenrodt as the transverse, uterine ligaments. These fascial strands extend into the peritoneal folds of the perimetrium to become fixed into the side walls of the pelvis. It is the concurrent opinion of anatomists today, which has been accepted by gynecologists, that these strands are the true ligamental supports of the uterus and that the round and sacro-uterine ligaments are but guy or restraining ligaments. These fascial planes, along with the triangular ligaments and the transverse perinei muscle, are the structures that makes up the chief portion of the inferior diaphragm of the pelvis. The levator ani and coccygeus muscles with their accompanying fascial planes, the levator fascia and anal fascia, are the structures that compose or make up the superior diaphragm of the pelvis. These two diaphragmatic planes are involved in the development of a procidentia of the uterus.

The tearing or stretching of the cardinal ligaments of Mackenrodt, the separation of the pubo-vesical fascial folds; the destruction or relaxation of the strands of fascia that pass back from the vesical ends of the pubo-vesical ligaments around the cervix, down to and incorporated in the anterior fascial substances of the peri-rectal walls, known as the recto-vesical fascia; and the wide separation or laceration of the levator ani muscles, are the morbid-anatomical features of cystocele, rectocele and uterine prolapse.

Every type of contraction-inducing medicinal agent was used by the ancients in the treating of uterine prolapse. The Egyptians, 1500 B. C., treated procidentia by applying hot oils t othe extruded uterus, and then returning the organ into the pelvic cavity. Hippocrates and Soranius used succussion; a draping of the patient over a cross-bar by her thighs, head down. the uterus having been replaced, and then filling the vagina with

strong tannic acid solutions. This treatment was repeated, daily for ten days. They also removed the uterus, presumably by means of the actual cautery. A pomegranate soaked in vinegar was a favorite treatment by Albucasius, the Arabian physician. Cauterization of the vaginal walls was also a method of treatment for uterine procidentia during the middle ages. African aborigines use, at present, animal bladders filled with air, as an intravaginal uterine supporting agent.

An English physician, in 1821, resurrected as a new method the use of a red oak bark solution, which he caused to be retained in the vagina by means of postures, and packing with wool saturated with the decoction. J. Marion Simms, in 1859, devised his lateral vaginal wall narrow strip denudation technique, these denuded areas being approximated by silver wire. He later adopted an additional cross-bar denudation, just below the cervix. Emmett, in 1869, denuded three areas in the vaginal wall, each about two centimeters in width, two lateral areas and an intermediate one, just below the cervix. The approximation of these points was also by means of silver wire. Baldwin later changed these denuded points slightly, making them crescent-shaped. LeFort removed mucosal strips along the anterior and posterior vaginal walls, approximating the two denuded areas, thus dividing the vagina into a bifurcated tube. All of these methods were devised to occlude the vaginal strait, and thus prevent the descent of the uterus.

Judd, of Brooklyn, in an article published in 1919, has advocated a return to the use of the Emmett-Baldwin method. Mackenrodt, in 1892, advocated transverse incision of the anterior vaginal wall, separation of the bladder and uterus, and slipping the uterus down and the bladder up, by fixing the two structures in a new position through approximated silk sutures. Duhrssen refined this method, and T. Cullen, in the *American Journal of Obstetrics and Gynecology*, November, 1922, demonstrated this technique anew, in recommending the "interposing operation" of Watkins-Wertheim-Shauta to correct a large cystocele. Vaginal interposition of the uterus is thus a step-by-step evolutionary surgical procedure from Mackenrodt to Cullen, but credited to Watkins.

In 1859, Koeberle suprapubically opened the abdomen, removed a normal ovary, and then sutured the pedical into the abdominal wall, to correct a retroflexed uterus. Olshausen, in 1881, reported two prolapsed cases treated by approximating the round and broad ligaments to the anterior abdominal wall. Kelly, in 1888, published his earlier hysteropexy technique for correcting a like surgical condition. Others advocated various changes in this suspension method for the correction of uterine procidentia from fixation of the cervical stump to the many forms of approximating the anterior uterine and abdominal walls. Acquiel-Alexander-Adams round-ligament-inguinal-canal-plication-method, has been used many times as a means of correcting uterine descensus. Webster, working from the Alexander incision, burrowed through the lateral walls of the space of Retzius, and caught up a plicated fold of the anterior vaginal fornix, which he fixed into the inguinal incision, near the pectineal eminence. Wertheim plicated the sacro-uterine ligaments from above. Berry Bell of England, laboriously mattress-stitched the reefed sacro-uterine ligaments, thus narrowing the cul de sac area to obviate uterine descent. Each one of these advocates of a superpubic method, either ignored the true structures involved in uterine procidentia, or claimed that their technique obviated the need of repairing the physiological, supporting structures. Hysteropexia is like fixing the intestinal mesentery to a superior point to correct inguinal or femoral hernia.

In 1887, before the members of the then Texas Medical Association, B. E. Hadra, an early Professor of Surgery in the Medical Department of the University of Texas, read a paper entitled, "The Use of the Musculo-fascial Planes to Correct Uterine Prolapse." In this paper, he stated that uterine prolapse and its concurrent conditions cystocele and rectocele should be corrected by returning the separated musculo-fascial planes to a normal anatomical state, by means of approximating, plicating sutures. His article met with scant notice and his suggestions were ignored. E Martin, in Germany, a few years later, published a description of a series of careful dissections, demonstrating the various musculo-fascial planes of the superior and inferior female pelvic diaphragm. Doderlien and Koenig, Halbein and Tandler, Holl and Shellbien, have confirmed the soundness of Martin's surgical methods.

Years before, all of these points had been explained and shown to be the essence of the surgical correction of uterine procidentia by Hadra, a Texan. I have felt that the surgical principles which govern the proper handling of uterine prolapse by the present anatomically-versed gynecologists, should be treated in a memoriam-like manner in this paper; and that the credit, long denied the discoverer of such principles, should be given him by a member of and before the Texas State Association.

The use of the demonstrated pubo-vesical ligament, and the wide separation and eleva

tion of the bladder upon the anterior uterine wall insisted upon by Hadra, is the proper technique of dealing with practically all forms of cystocele, today. The neutralization of cul-de-sac enterocele, median or inferior rectocele, is but a plication of musculofascial planes. Hadra demonstrated that both anterior and posterior vaginal wall herniations must be dealt with as herniae, and that *the structures involved should not be disregarded.*

The Hadra-Martin method of correcting a cystocele may be briefly outlined as follows: A central longitudinal incision of the anterior vaginal wall is made, starting a centimeter below the urinary meatus. The mucosa is carefully separated in the median line, the fascial coverings of the base of the bladder being retained. The elevation of the mucosal strip is sufficient to expose the pubo-vesical ligament, (I have added a transverse incision of the cervico-vaginal mucosa as a refinement at this point.) The bladder should be separated up to the peritoneal utero-vesical point, and this separation should be ample laterally, to permit a free exposure of the entire anterior uterine wall, avoiding entrance of the abdominal cavity.

Starting a centimeter above the meatal end of the incision, chromic sutures pick up the fascial covering of the base of the bladder, by dipping into the pubo-vesical ligament to a point slightly above the internal os, then across, catching a bit of the anterior uterine wall. This process is repeated until the periurethral point of the suture's starting point is reached. The tying of this suture elevates the bladder, straightens out the urethra and approximates the pubo-vesical ligaments. Care should be taken to see that the bladder does not fold upon itself, when this suture is being tied. The concluding steps are the approximation of the pubo-vesical ligaments by interrupted sutures, and closure of the mucovaginal line by a continuous catgut suture.

The rectocele operation of Spaulding and Ward is based upon sound, surgical, *Hadra* principles. A careful crescent-shaped incision is made at the muco-cutaneous edge of the perineum and the muco-fascial planes are separated back to and inclusive of the vaginal fornix. The separated mucosa is then split longitudinally, and the sacro-uterine ligament on one side is caught by a median kangaroo suture, which is carried in and out through the perirectal fascia to within a couple of centimeters of the ampulla of the rectum, then across this structure, and in and out of the lateral circumscribed rectal fascia, to the opposite sacro-uterine ligament, where it is tied. The tying of this suture elevates the rectum and approximates the sacro-uterine ligaments. Ward passes his sutures through the mucosal vaginal wall, posterior to the surface. These are an intermediate series of chromic sutures, approximating the separated pubo-rectal divisions of the levator ani. The longitudinal mucosal incision is then closed with a running suture of plain gut, and the operation is completed in the same manner as the Hagar-Tait perineorrhaphy.

J. Riddle Goff, in the early nineties, incised the lower portion of the broad ligament and plicated the two in front of the uterus. Nyulasy, of Perth, Australia, uses the transverse ligaments of Mackenrodt as the chief agents in his technique of correcting uterine procidentia.

The following is my own technique in performing, vaginally, the Baldy round-ligament plication. It obviates opening the abdomen and is intended for the still parous patient. Freely open the anterior peritoneum at the vesico-vaginal folds and carefully and broadly separate the bladder from the anterior uterine surface in a lateral way. Through the anterior surface of the uterus, one or two double No. 2, plain-gut, guy sutures are passed, to be used in anteflexing the uterus in an exaggerated degree. The round ligaments are next isolated two centimeters from their corneal ends and tagged with a loop of No. 2 cat-gut. The broad ligament is punctured with sharp-pointed forceps in the clear space below the utero-ovarian ligament. These forceps are spread, in order to dilate the broad ligament openings through which the round ligaments are dragged by means of the tagging ligatures. The steps at this stage of the operation are the usual steps of a Baldy suprapubic operation. One should be careful to be beneath the utero-ovarian ligaments, so that the plication of the round ligaments elevates the utero-ovarian ligament, thus correcting the prolapsed ovaries. This technique is to meet the needs of the correction of a retroverted, first or second degree prolapsed uterus. The cystocele and rectocele accompanying the uterine descensus, are dealt with along the lines of the Hadra-Martin and Spaulding-Ward techniques. I feel safe in recommending this vaginal method of properly supporting a prolapsed uterus.

Complete procidentia in the woman near or at the menopause, or in the multiparous woman not desiring more children is best corrected by the J. Riddle Goff-Charles Mayo method. Mayo's refinement of the Goff operation means a vaginal hysterectomy, the overlapping of the clamped broad ligaments, and their plication, thus giving a broad base for the erstwhile cystoceled bladder to rest upon.

In outlining the cervico-vaginal incision, one should start anteriorly, at a tagged apical point close to the meatus-urinaris then tag the lateral walls of the vagina a centimeter or so outside and even with the cervico-vaginal junction, and then centrally tag the posterior vaginal wall, half way down the vagina. One thus has two triangles outlined on the anterior and posterior walls of the vagina. The connection of the bases of these two triangles is a centimeter or so outside of the cervico-vaginal junction, and is accomplished by sweeping the incision around the cervix through the fascial structures, as one of the steps of the cervical hysterectomy. The incision on the anterior and posterior walls of the vagina, goes through the musoca only. The fascial planes of the posterior and anterior vaginal walls are carefully retained for approximation at the termination of the hysterectomy and plication of the broad ligaments. The left round ligament is fixed to the right broad ligament edge, and the right to the left broad ligament edge. The two are sutured together, and to the broad ligament. The closure of the anterior and posterior fascial walls is carried out in accordance with the Hadra-Martin technique anteriorly, and the Spaulding-Ward technique posteriorly. The elevating sutures of each are made to catch into the plicated broad and round ligaments, thus lifting up the anterior and posterior vaginal walls. Preceding this last step the anterior and posterior peritoneal edges of the hysterectomy wound are approximated, rendering all of the subsequent steps an extra-peritoneal procedure. Redundant vaginal tissues are excised and the edges of the same are carefully tacked to the plicated broad and round ligaments.

These refinements of the methods of several other men give a high and long vaginal result. My experience with this method covers twenty-two cases. The operation is concluded by correcting perineal faults by the Hegar-Tait methods.

Surgical correction of uterine prolapse in the adolescent and virginal types of cases, means a Hadra-Martin technique plus at times, cervical amputation. If the retroverted or retroflexed position of the uterus produces symptoms to justify it the abdomen should be opened. Through this suprapubic incision, the Baldy posterior uterine approximation of the round ligaments to each other, and to the uterine walls, to serve as guy slings for the retrodisplaced organ, should be done. This technique results in the physiological, anteverted state of the uterus and the normal obtusely-angled uterovaginal, axis-line is created. The Alexander operation lacks the finished features of the above described combined vagino-abdominal procedure. A concurrent rectocele and enterocele should be dealt with after the Spaulding-Ward method.

There are many problems of a pathological nature in uterine procidentia which one must consider before deciding as to the technique or method of treatment: the age of the patient; her social status; her desire for further child-bearing, and the degree of pathology existing.

There is a type of uterine prolapse that needs special mention, and that is the type rightly called the subinvolutional. The temperamental rapid-hand-vaginal-dilating, quick-to-use-forceps obstetrician traumatizes the fascial planes and weakens the muscles of the superior and inferior pelvic diaphragms, by his spectacular methods. Such an obstetrician is prone to overlook submucous tears or relaxation of the musculo-fascial planes of the vagina, that have been produced by the forcible extraction of the incompletely molded head. He usually fails to check up the degree of uterine involution in his subsequent visits to the patient. He deems it unnecessary to make an examination of his patient six weeks subsequent to delivery. He is the type of accoucheur that should be condemned. He should be told that he is a producer, either actually or potentially, of uterine prolapse and its concurrent conditions, cystocele and rectocele, in a large percentage of such cases.

Rapid, natural delivery is a frequent etiological factor in this type of pelvic hernia. Delayed subinvolution means postural treatment. Obstetricians should adopt subsequent to the first week, Beck's monkey-trot exercises. They should also use the Fowler's position in bed, and request their patients, subsequent to the third day (in those cases that have no complicating pathology) to use the commode, and to assume the knee-hand position for twenty minutes at least twice a day, subsequent to the fourth post-delivery day. A uterus that resists these efforts to aid involution indicates a longer rest in bed for the patient. Subsequent to confinement boroglycerol absorbent wool tampons and, at times, a rubber ring pessary will markedly diminish the number of cases of uterine prolapse. Miscarriage and premature-delivery cases are peculiarly prone to subinvolution of the uterus and its ligamentary and fascial supports.

CONCLUSIONS.

1. Uterine prolapse is but a pelvic type of hernia.

2. Its correction means the recognition and the utilization of the structures involved. The pelvic musculo-fascial planes must be

anatomically returned to an active physiological state, if one desires to correct uterine descensus, cystocele and rectocele.

3. There is a postural, congenital type of uterine prolapse that not alone needs calisthenics, but mechanical supports, correction of intestinal stasis, general tonics, correct diet and rest in bed on an inclined plane with the head down, before undertaking surgical intervention. This is the Glenard type.

4. Post-puerperal states, whether at term or of an abortive or miscarriage type, need careful post-puerperal observation, Beck monkey-trot exercises and knee-chest positions to obviate the development of a relaxation of the pelvic diaphragm.

RELATION OF THE THIRD NERVE TO THE SPHENOIDAL SINUS.*

BY

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The inequality of the pupils has always been of interest, and the pupillary reflex should be subjected to careful scrutiny; yet, it is true that inconstancy is the prevailing quality, and there are few instances wherein it can be said that a given pupillary reflex is pathognomonic of any particular disease of the nervous system. I can recall the time when a paralysis of the third nerve was understood to clearly indicate a syphilitic lesion. It is doubtless true that when there is a complete involvement of the distribution of the third nerve, a clinical conclusion that lues is at the bottom of it, will stand more often than not. But we have abandoned the general view that a dilated pupil, with or without loss of accommodation, is the result of a luetic lesion. Just how one or two branches of the third nerve can become involved and the other branches so frequently escape, is an interesting problem, but when we consider the anatomical relations of the third nerve to the structures which lie near its path, we recognize how unique it is.

This question became acutely interesting to me in connection with two cases, both young men, one with a sphenoidal abscess of long standing, the other occurring from a bullet which had passed through the left eye, becoming buried in the sphenoidal sinus. The branches of the third nerve supplying the ciliary muscle and the sphincter iridis, were involved in each case, and a presentation of these cases is the basis of this discussion.

CASE REPORTS.

Case No 1, was a male, weighing approximately 200 pounds, aged 22 years. He had noticed the previous April that his right pupil was dilated, and that he could not read with that eye. When he came to see me last July, it was noted that he had a paralysis of the accommodation as well as of the sphincter iridis; his vision was 20/200 right, and 20/17 left, with a normal field and no scotomata. He stated that he had suffered from a severe headache, extending across the forehead on the right side, in April, and that following this, his vision had gradually gone down. He had experienced no double vision, but his head had ached every day, and he complained of some rheumatism. It was noted, further, that with the proper correction of lenses, the vision in the right eye could be brought up to normal; the optic nerve was not involved. The frontal and maxillary sinuses were easily transilluminated, and appeared clear; the septum was deviated to the right; the tonsils were large, and no secretion was seen in the nose. He gave no history of recent discharge from any of the sinuses. He was a large man, and it was difficult, on account of his reflexes, to look very thoroughly into the postnasal spaces, but no secretion from the sphenoids was observed. His refraction was noted.

A diagnosis of toxic neuritis was made, following a negative blood Wassermann. He was told that a tonsil operation, a submucous resection to straighten the septum for proper drainage, and correct glasses, would give him his best chance for recovery. Some two weeks later, the patient was given a general anesthetic, the tonsils were removed, and the usual submucous resection was performed. There was no secretion observable, and as there was no definite thought that the patient had any infection of the sphenoidal sinus, this was not entered. The patient left the table in good condition, but during the first twenty-four hours he vomited a great deal, and developed a persistent hiccough, as well as pain. There was definite evidence of an increasing infection, which was recognized as meningitis, and the patient succumbed on August the first.

An autopsy was granted, the main purpose of which was to throw some light on the original cause of the third nerve paralysis, as well as to demonstrate the character of the latent infection. It also disclosed an asymmetric development of the ethmoidal and sphenoidal bones, which evidently occurs in a certain number of cases, resulting in additional hazards from operative procedures, however skillful the surgeon may be. When the dura was removed from the anterior cranial fossa, the crista galli of the ethmoid was seen to lie about 3 mm. to the left of the midline, its projecting portion turned distinctly to the left, so that the cribriform plate on the left was narrowed to about 0.3 cm., while the cribriform plate on the right side was correspondingly increased in width. The cribriform plates were apparently situated at a lower level than the surface of the adjoining part of the frontal bone. The posterior clinoid processes were asymmetric, the right anterior and posterior clinoid processes being on a higher level than the left. The basilar process of the occipital bone lay tilted toward the left, instead of lying with its posterior surface directly backward. The sphenoidal cells on the right side were filled with a tenacious, yellow exudate, while on the left they contained a grayish, milky fluid. The tissues about the cavernous sinus contained a grayish-yellow exudate. The secretion and exudate in the right sphenoidal sinus was apparently encapsulated; at least, it appeared that the fluid content was of long standing, but not been active enough to create a pronounced discharge.

The microscopic examination of the brain and meninges showed suppurative leptomeningitis of the cerebral hemispheres and cerebellum, with diffuse hemorrhages, and there was evidence of extensive

*Read before the Section on Ophthalmology, Otology, Rhinology and Laryngology, State Medical Association of Texas, Fort Worth, May 9, 1923.

phagocytosis by the endothelial cells. The hypophysis showed no marked changes. The cavernous sinus and surrounding tissues and the tissues about the nerve bundles, contained exudates rich in leucocytes.

Examination of the bones showed what appeared to be a bony erosion at a point beneath the place where the third nerve passed, which suggested the thought that through contiguity the long-standing process had brought about the paralysis of those third nerve branches which were involved. There was no other apparent cause, so far as the brain was concerned, which could have produced the lesions that had existed for two or three months.

From the clinician's standpoint, there was a paralysis of the third nerve, resulting from long-standing sphenoiditis, which was not diagnosed because there was no definite expression of trouble there, other than the paralysis, no observable discharge, no occipital headache and no history which would lead to a search of the sphenoidal sinus, to prove the absence of infection. In the light of what followed, and in a study of the case from the standpoint of the autopsy findings, an isolated third nerve paralysis would suggest that the sphenoidal sinus should be excluded, even though exploratory operation should be required. And further, the anatomical arrangement found in this case indicates the danger attached to an operation, however carefully performed, and however simple it may ordinarily be considered, if done in a case where there is already a lesion in the sphenoidal sinus. No doubt, we often operate where there is an asymmetry and a distortion of the cribriform plates, without bad results; but a paralysis of the accommodation and the pupil, should be a definite warning in any operative procedure upon the nose.

Case No. 2, was that of a young man of 29, who was brought to the hospital two days after an accident which happened to him while seated in a street car. A bullet from outside of the car was deflected from the side of the window, striking the left eye at the lower outer canthus, destroying the eye, burrowing its way back to the os planum, destroying the orbito-nasal wall, passing through the ethmoidal cells, destroying the ethmoidal wall, and then entering the sphenoidal cavity, where its nose rested upon the bone beneath the optic chiasm. The patient stated that there was no pain, but a sudden loss of sight in both eyes. He was removed to the hospital, where he was seen by Dr. Shortall, who said that the patient lapsed into unconsciousness for a few hours, being conscious when he saw him the next day, but still unable to see.

The accident happened on Saturday evening, and he was brought to my clinic in Baylor Hospital, two days later. Upon examination, a ragged wound was found in the left lower lid; the eye was collapsed, the tissues swollen, and there was a marked chemosis on the left side, with some ecchymosis observable on the right and slight chemosis in the right eye. His right eye could be moved in any direction, but the pupil was dilated and did not change upon motion of the eye, nor did it respond to the strongest light. On looking into the eye with an ophthalmoscope, I could see that there was a distinct neuroretinitis, with evidence of exudates thrown out into the vitreous. There was apparently no edema of the nerve head, but the disc was quite hazy and the retinal veins very tortuous.

The patient did not complain of pain, and stated that he had neither suffered any pain, nor been unconscious. It was hoped that the removal of the bullet from the sphenoidal sinus, so near the third and optic nerves, would cause a rapid reduction of the supposed serous exudate around the optic foramen, and that the optic nerve could be saved from an atrophy which it would be bound to sustain if the inflammatory condition should remain. The sudden loss of sight was accounted for on the basis of shock from the traumatism.

The patient was given an anesthetic, and the remains of the left eye were removed. An incision was made through the conjunctiva and lid structure, a few millimeters to the side of the lacrimal opening on the left upper lid, down to about the fronto-nasal junction of the bones. The tissues were drawn aside, the fragments of the ethmoidal bone were removed, and a flattened, 45 caliber steel-jacketed bullet was withdrawn from the sphenoidal cavity. The tissues were brought back into place and stitched, drainage being properly established. The lower part of the left lid, which had been destroyed by the passage of the bullet, was repaired, in order to make a socket, in which he could later wear a glass eye.

Following the operation, the patient made an uneventful recovery, and at no time was there any objectionable drainage into the nose. The right eye was observed with a great deal of interest, and we tried to obtain some light reflex, which had not returned. Some four and a half months after the accident, it was observed for the first time that the third nerve responded to accommodation, but of course not to light, since the optic nerve was atrophied. The third nerve has recovered its ability to transmit impulses, in a period somewhere approximating four months, but the pressure which was developed by a supposed orbital cellulitis, ensuing as a result of the accident, was evidently capable of destroying the two branches of this nerve, which seem so susceptible of injury, regardless of the fact that the other branches may escape.

The fact is well established that the third nerve can, in time, recover, whereas the optic nerve, passing, as it does, through a bony foramen and subjected to a similar amount of orbital cellulitis, will choke to death. Under such circumstances, however desperate the chance, if the optic nerve is to be saved, it must be freed from its bony foramen early enough to prevent that stricture which eventuates in a complete loss of nerve fiber. A similar amount of pressure when not associated with bony restrictions, will permit the recovery of the third nerve.

SUMMARY.

1. A dilated pupil with loss of accommodation and with or without a history of sphenoidal trouble, suggests a necessity for an analytical study of the sphenoidal sinus.

2. If the infection comes from the sphenoidal sinus, there is not likely to be a disturbance of the morbidity of the extra-ocular muscle.

3. If there is evidence of orbital cellulitis, with immobility of the extra-ocular muscles, a lesion is likely in the ethmoidal cells, while the ciliary ganglion frequently escapes.

4. Any traumatic lesion destroying one eye and then involving the ciliary ganglion and the optic nerve of the other with loss of light perception, will justify an operative procedure through the wall of the sphenoidal sinus, to release the pressure on the optic nerve.

ABSTRACT OF DISCUSSION.

Dr. John H. Foster, Houston: I know of no class of cases that calls for finer judgment than that in which it must be determined whether the posterior ethmoid cells are responsible for eye symptoms. This applies not only to third nerve involvements, but to other eye lesions as well. Cases are frequently referred to us for opinion as to whether or not the nasal accessory sinuses are responsible, and often I am unable to definitely decide. It has been my practice in recent years, where the eye symptoms are of a grave nature and where we are not able absolutely to determine whether there is trouble in the ethmoid or sphenoid sinuses, to advise an opening for investigation, for the reason that cases have been so frequently recorded where inspection and *x*-ray examination were negative, and yet operative work has given relief. In some cases, of course, one can definitely discover trouble, but in the hyperplastic cases it is difficult. We hate to advise operation, particularly where the work involves a septum operation as well as ethmo-sphenoid exenteration, when we are unable to promise anything, and yet, the patient's eyesight may be at stake.

MAJOR TRIGEMINAL NEURALGIA: AVULSION OF THE SENSORY ROOT.*

BY

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The symptomatology of major trigeminal neuralgia was first accurately described by Fothergill, in 1773, and since that time the only advances which have been made in the study of this painful condition of the face have been purely therapeutic. A century ago, the nerves of the face were carefully studied by Charles Bell. His work led to certain important advances in the treatment, but, unfortunately gave no hint as to the etiology of trigeminal neuralgia. Workers should spend their efforts studying the cause and pathology of the disease, for until these phases are known the treatment will necessarily remain surgical. Sir Victor Horsley has stated that trigeminal neuralgia is possibly caused by dental infection, resulting in ascending neuritis. Frazier describes it as central, that is, of ganglionic origin in the nature of a sclerosis, and Dana ascribes as the probable cause, the degenerative changes in the ganglion and nerves which lead to neuritis.

The disease is not hereditary, nor is it self-limited. It is practically always unilateral. It occurs most frequently in males, in the fourth and fifth decades of life, but cases have been reported in individuals from 7 to 75 years of age. The right side of the face is the one usually involved, the symptoms developing first in the infraorbital branch of the second division. It is important to note that morphine alleviates but does not *relieve* the pain, in true trigeminal neuralgia.

*Read before the Section on Surgery, State Medical Association of Texas. Fort Worth, May 10, 1923.

TREATMENT.

For few maladies have a greater number of therapeutic measures been advocated, than for trifacial neuralgia. Nerve resections, the injection of tissue fixatives and ganglion resections, are some of the methods which have been used with varying degrees of success. The great hazards of ganglionectomy, or recurrences of the neuralgia following some of the treatments, have made these procedures unpopular.

In 1890, William Rose excised the gasserian ganglion, and although this operation permanently relieved the pain, the mortality and complications of this type of operation were so great that it was soon brought into disrepute. J. Hutcheson, in 1898, in view of the fact that only 25 per cent of cases suffered with involvement of the ophthalmic division, advocated resection of two-thirds of the gasserian ganglion, sparing the fibres to the first division in order to avoid the eye complications of a complete extirpation. This operation is frequently followed by subsequent involvement of the ophthalmic division, while the hazard is just as great, or greater, than the complete operation proposed by Spiller and Frazier.

Spiller, in 1898, advocated avulsion of the sensory root of the gasserian ganglion, following numerous experiments which showed that if the fibres running between the pons and the ganglion were cut through or avulsed, there was no regeneration of these fibres. Frazier, in 1901, performed this operation successfully for the first time. These intracranial operations were considered extremely hazardous and consideration was still given to less complicated methods.

In 1902, Pitres and Verger, and in 1903, Schlosser, described methods for deep injection of the nerves with alcohol near their foramina of exit from the skull, which was an important advance in the treatment of trifacial neuralgia. F. Hartel advocated injecting the gasserian ganglion with alcohol, and in 1912, described his technique. Peripheral and deep nerve injections give only transitory relief and the interval of freedom from pain grows shorter with each successive treatment. Deep alcoholic injections are difficult and dangerous, and the complications are many.

Examples of the distressing after-results observed by Cushing following deep alcoholic injections, are: Paralysis of the oculomotor nerve; locking of the jaws from infiltration and subsequent fibrosis of the pterygoid

muscle; paralysis, sometimes permanent, of the motor root in injections of the mandibular division; sloughs of the nasal bone, with frequent ozena; severe hemorrhage in intranasal injections; facial paralysis (four cases); interstitial keratitis, and labyrinthine trouble from accidental injections into the middle ear. Most of these unfortunate accidents have resulted from the faulty technique of inexperienced operators in attempting a most difficult surgical procedure.

Dr. H. T. Patrick reports successful results in 30 per cent of 500 deep injections. He was partially successful in about 44 per cent, and unsuccessful in 26 per cent. In only 18 per cent of these cases could the first attempt at either branch be regarded as successful. It is, therefore, quite evident that though deep alcoholic injections have a therapeutic value in the treatment of trigeminal neuralgia, there is a definite hazard in the procedure, and the complications are distressing. The results are temporary, and, as compared with the radical operation, should only be considered as applicable to those cases where the branches involved are easily accessible, or where the major operation is definitely contraindicated.

The operation described by Frazier in 1901, has been carried out by him in 221 cases, and his mortality has been decreased from 5 per cent to less than 1 per cent, with most gratifying end results. The average postoperative disability is about two weeks in the hospital, and the disfigurement is negligible. A permanent area of anesthesia remains indefinitely, but this area contracts as the years go by, as has been demonstrated by Frazier, and after the first few months is in no sense a handicap to the patient. With a mortality of less than 1 per cent, following the major operation, with the permanent end results, with the most common complication (interstitial keratitis) occurring in less than 10 per cent of operative cases, and with the satisfaction and gratitude of the patient for relief from this terrific pain, it would seem that this procedure should be advised in all major neuralgias, where there are no contraindications.

It must be stated, however, that no operation requires more skill, patience and resourcefulness. Hemorrhage is often difficult to control. Adhesions of the dura propria to the ganglion (due to alcoholic injections or to basal meningitis of specific origin) may be so dense as to make the exposure of the root difficult. Occasionally, the sensory root is so deeply situated that its exposure is impossible, and recourse to ganglionectomy must be had. The operator must be prepared for any exigency, in order to perform the operation with uniform success.

Certain details in the preoperative and postoperative care of the patient, unquestionably lessen the hazard of the operation, reduce the number of postoperative complications and make the patient's convalescence more comfortable. About one patient in ten develops trophic disturbances in the cornea. Since the majority of patients with trigeminal neuralgia are more than 50 years of age, arteriosclerosis, myocarditis and interstitial nephritis, are common concurrent diseases. Consequently, rest in bed for two or three days previous to the operation, with forced fluids, a laxative each morning, and a bland diet, together with daily irrigation of the eyes with warm boric solution, followed by the instillation of atropin or holocain, reduce to a minimum the likelihood of a catastrophe during the operation and complications thereafter.

A protective shield should be worn over the eye for a period of one week following the operation, and dark glasses should be worn for a number of months. If a corneal ulcer is suspected, an attempt should be made to detect it immediately, with a fluorescin stain. If there is exfoliation of the epithelium, the lids should be closed, when ordinarily, the ulcer will heal in 48 hours. The early recognition of this trophic lesion, and institution of prompt treatment, will often not only save the sight, but prevent more disastrous trouble. If there is much oozing following the operation, a selvedge-edged iodoform-gauze drain should be used for from 24 to 48 hours, and in all cases a small rubber tissue drain for 24 hours, is useful. The patient should be up in a wheel-chair at the end of a week, with all of the stitches out in eight days, and should be walking in ten days.

The prognosis is good, provided no error has been made in the diagnosis, and that all sensory root fibres have been avulsed. Temporary facial paralysis, coming on the third or fourth days and lasting a few days, is an unavoidable complication in a certain percentage of cases.

In men, the whole head should be shaved, but in women, only a part of the scalp need be so prepared. The patient should be anesthetized in the sitting posture, preferably in a dental chair, with the head fixed and the field of operation exposed. The usual instruments for cranial operations are used, and the special instruments and material needed are, a good head-light, a narrow, flexible ribbon retractor, small cotton pledgets with heavy thread attached, bone wax and a flexible periosteal elevator. From 45 minutes

to two hours is required to perform the operation, depending upon the difficulties encountered.

I wish to describe six cases of major trigeminal neuralgia, in which I performed the Frazier operation, following his technique as closely as possible in each individual case. Five of these patients were males. In males, the right trigeminal nerve was involved, and in the female, the left trigeminal was affected. The patients were 62, 69, 67, 40, 63 and 74 years of age. The first case was operated upon in 1918. The results have been satisfactory in all cases except one, in which the patient died of shock.

Case No. 1.—Mr. J. H. Y., 62 years of age, was admitted to Baylor Hospital, December 31, 1918, and discharged January 10, 1919. He complained of a lancinating pain in all branches of the right trifacial nerve, of five years' duration. He had had repeated injections of alcohol, with intervals of relief from pain over periods of from nine months, at one time, to a few days, following the last injection. His history was negative otherwise, except for rheumatism. Avulsion of the sensory root of the right gasserian ganglion resulted in complete relief from pain. A post-operative corneal ulceration healed, following treatment. At the last report there had been no recurrence of the pain.

Case No. 2.—Mrs. A. H. P., aged 64, was admitted to the hospital, January, 11, 1922, complaining of pain involving all branches of the left trigeminal nerve. She had first noticed lancinating pain spreading up over her forehead, one year ago. The pain had been gradually involving other branches of the trigeminal nerve until the entire left side of her face was involved. The pain was not constant, but the attacks were becoming more frequent. Attempts at alcoholic injection had not given relief. On January 12, 1922, an avulsion of the sensory root of the left gasserian ganglion, Spiller-Frazier method, was done with complete relief from pain. The patient was discharged January 28, 1922.

Case No. 3.—Mr. S. P. S., aged 67, was admitted to the hospital on March 20, 1922, complaining of a major trigeminal neuralgia, involving all the branches of the right side, and of three and a half years' duration. His first symptoms were in the supraorbital branches of the first division of fifth nerve, but subsequently, all branches became involved. On March 21, an avulsion of the sensory root of the gasserian ganglion, Frazier method, was done, which completely relieved all pain, and the patient was discharged April 3, in good general condition. There was no recurrence ten months after the operation.

Case No. 4.—Mr. J. E. D., aged 40 years, was admitted April 6, 1922, complaining of a major trigeminal neuralgia in the second and third divisions. The trouble began, two and a half years ago, with lightning pain in the right side of his tongue, and in his right teeth, for which he had the upper and lower teeth on the right side extracted. He also had a sinus operation on the right side, and attempts at alcoholic injection of the third division of the trigeminal nerve, with only temporary relief. On April 19, 1922, an avulsion of the sensory root of the right gasserian ganglion, Spiller-Frazier method, was performed, and the patient was discharged April 22, 1922, completely relieved. There was anesthesia over the distribution of the fifth nerve. His general condition was excellent. A recent communication was to the effect that there has been no recurrence of pain. He enjoys excellent health.

Case No. 5.—Mr. J. A., aged 63 years, was admitted August 26, 1922, complaining of lancinating pain, involving the right upper teeth and the right side of the nose and upper lip, beginning eight years ago. He had had his teeth extracted and two or three operations on the sinus with no permanent relief. He had been given repeated injections of alcohol, which gave relief for a period of months, but these periods of relief decreased with each injection, and the attacks became more frequent. On the day of admission, avulsion of the sensory root of the gasserian ganglion, Frazier method, was done, which was followed by anesthesia over the distribution of the right trigeminal nerve. The patient was confused for several days following the operation, but this condition finally cleared up. He was discharged from the hospital, September 10, 1922, and had complained of no recurrence of pain when last heard from, about three months ago.

Case No. 6.—Mr. J. M. J., 74 years of age, was admitted to the hospital October 13, 1922, complaining of lancinating pain in the right side of the tongue and alveolar margin of the mandible, right side of the nose and the right temple. He had suffered from this trouble for 15 years, and had had 14 operations of various sorts, including an operation on the facial nerve, which gave no relief. The lingual nerve was resected, with relief for five months. On October 14, an avulsion of the sensory root of the gasserian ganglion, Frazier method, was performed. The operation lasted an hour and thirty minutes. The patient bled profusely from the incision in the skin and scalp; the dura was firmly adherent to the skull, and was torn in several places but finally elevated. There was much oozing still, which made exposure of the ganglion very difficult, even after the exposure of the foramen ovale. Finally, the sensory root was exposed and avulsed.

A few minutes before this was accomplished, the anesthetist informed me that the patient's respirations were labored and that he was not doing well; his heart action was fast, and he was perspiring profusely. I prolonged the operation just a few minutes, in order to be certain of the complete avulsion of the sensory root, and while the incision was being closed the patient collapsed. The head was lowered and 100 cc. of blood, taken from his son, was injected into his veins, but to no avail. The patient's respirations ceased several minutes before his heart-action failed. From the time of the first signs of collapse until complete cessation of the heart-action, about thirty minutes elapsed.

CONCLUSIONS.

1. In the operative treatment of trigeminal neuralgia, no effort should be spared to make sure of the diagnosis.

2. If in doubt about the diagnosis, use an alcoholic injection as a therapeutic test. In a neurosis there is numbness of the distribution of the nerve, but the pain persists.

3. The diagnosis of trigeminal neuralgia is not always an easy task. It must be differentiated especially from *neurosis,* pressure neuritis, specific neuritis, sinus infections, focal infections of the teeth, migraine, and other common causes of facial pain.

4. Alcoholic injections should be reserved for the minor trigeminal neuralgias.

5. Major trigeminal neuralgia is most satisfactorily treated by the radical operation.

6. In the hands of most experienced neurological surgeons, the mortality from this operation is from 1 to 5 per cent.

7. Cases of suspected trifacial neuralgia that are relieved by morphine, should be critically studied, as morphine does not relieve but alleviates, the pain of true major trigeminal neuralgia.

8. Neuralgia rarely begins in the supraorbital nerve; pain beginning in this region should be carefully considered.

9. Investigators interested in this subject should bend their efforts toward working out the etiology of trigeminal neuralgia.

10. The treatment, now entirely surgical, is on a very satisfactory basis.

ABSTRACT OF DISCUSSION.

Dr. E. R. Carpenter, Dallas: No doubt, the operation as detailed and practiced by Frazier and Spiller, is technically perfect, but there is a possibility of great advance in the treatment, aside from avulsion of the sensory nerve. The injection of alcohol into the ganglion, or the various branches of the ganglion, is a method not to be ignored, as it is valuable in many cases. There are other methods, such as the use of radium or galvanism, that have features worthy of further investigation. Dr. Flynn mentioned the fact that a portion of the ganglion had been removed in the hopes that it would not be necessary to destroy it totally, but that such efforts had met with failure. This point is not definitely settled; and it does not appear that the operation has been *perfected*, when it is necessary to destroy the function of *all three branches*, where only *one* branch is involved. In many cases only one branch ever gives trouble. The greatest danger in the operation is shock, as many of the patients are of low vitality. The eye complications are sometimes very annoying, and eyes may be lost after the operation, as described by Dr. Flynn. That death occurs so seldom with some operators, is possibly accounted for by the fact that some men are more careful in assuming operative risks than others. Also, the anesthetic is an important factor in performing this operation.

Dr. H. L. D. Kirkham, Houston: I was fortunate enough to spend about six weeks in Frazier's Clinic, and saw quite a few of these cases operated upon by him. He will absolutely refuse to operate upon patients who give histories of having to take morphine to relieve their pain. As a rule, these patients do not stand opiates well, and despite the fact that the pain is terrible, they had rather bear it than take opiates. Frazier makes a careful distinction between typical and atypical cases in selecting his cases for operation. I think the operation is serious enough that it should not be attempted in case of trifacial neuralgia, without definite evidence that it is true tic. The symptomatology that has been referred to, the boring pain, is typical. These patients will point their finger almost constantly to the point to which the pain is referred, which point usually corresponds with the nerve endings.

Frazier made the definite statement that alcohol injections will not cure, and that all they can hope to accomplish is relief. In the case of involvement of the ophthalmic divisions of the nerve, instead of using alcohol injections, one must rely upon operation, because alcoholic injections are too dangerous to attempt. Frazier uses the alcohol injection of the second and third division as a means of determining whether he is dealing with a true neuralgia, or a neurosis. In cases of neuralgia of the ophthalmic divisions, as a diagnostic means, he sometimes avulses the supraorbital nerve.

The area of anesthesia contracts, but the contraction never extends from the midline, apparently showing that there is no anastomosis between the nerves of the two sides. The true anesthesia does not extend down to the angle and edge of the jaw, but to an area about a quarter of an inch above the edge of the jaw. This is easily explained by the fact that much of this area gets its sensory nerve supply from the ascending branches of the superficial cervical plexus. In the technic, there is one little point that Dr. Flynn failed to mention. As we go down to the ganglion, before we start on what Frazier calls "the forward march along the base of the skull," a small opening should be made in the dura, to allow the escape of the cerebrospinal fluid, and in that way to relieve the tension. Frazier uses the white line where the dura is reflected over the top of the ganglion, as a guide to the ganglion itself.

As to the end results, occasionally, a paralysis of the motor root results, and this paralysis is most distressing to the patient for quite a long while, especially in mastication, but usually it clears up in several months.

Dr. Penn Riddle, Dallas: This is a very tedious operation. The fibers between the pons and the gasserian ganglion, will not regenerate, because they are dendrites, and dendrites do not regenerate when cut. The fibers peripheral to the ganglion are axones, which are apt to regenerate.

I saw a case in which Dr. Cushing operated bilaterally, both sides being involved. "You have two evils," he stated, "the lesser of the two is to cut the first and second divisions of the trigeminal nerve (cutting axones which are apt to regenerate); the other evil, cutting the fibers between the pons and the ganglion (dendrites), gives a complete loss of sensation on both sides, which is the greater of the two evils. By cutting only the first and second divisions of the trigeminal nerve, we get no motor paralysis, because the motor root joins the third division of the nerve."

Dr. Flynn (closing): I am fortunate to have one of my patients here today. I want you to see that I have been able to avoid the destruction of the motor root. This gentleman has complete relief after fourteen months, and he has very little, if any, disfigurement. The line of incision can be seen. There is no motor paralysis, but he has a slight anesthesia, which he says does not interfere with his comfort in the slightest.

The Absorption of Epinephrin.—Although epinephrin is absorbed from the mucous membranes of the throat, mouth, urethra, vagina and rectum, the effectiveness of such modes of introduction is too uncertain to make them popular. The drug is not absorbed from the gastrointestinal canal to induce any appreciable effect. Intravenous administration must be used with extreme caution and the manifestations secured are likely to be rather evanescent. The response to intramuscular injection is considerable. There is a widespread belief that the subcutaneous administration of epinephrin causes little effect and that the action is decidedly uncertain. However, the relief which is secured from the hypodermic injection of epinephrin in asthmatic patients is evidence that absorption by this route is rapid and satisfactory. It probably proceeds by lymphatic rather than by blood vascular channels.—*Journal A. M. A.*, Feb. 9, 1924

THE SURGICAL ASPECT OF HEADACHE AND PAIN IN THE HEAD IN RELATION TO ACCIDENT INSURANCE WORK.*

BY

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In this day and time almost everyone carries some form of accident insurance. This is especially true of industrial workers under the Workmen's Compensation Law, where practically everyone is entitled to compensation for any serious injury. In many cases this factor must be taken into consideration along with the treatment to be advised. Malingering, exaggeration and mental distress in connection with lump-sum settlements and lawsuits, cannot be ignored by the surgeon, as may be done in private practice. This unfortunate situation often deprives the surgeon of the opportunity to render the best service within his power.

The comments embodied in this article on headaches and pain in the head, are based to a great extent on a study of the records in 3,000 head injury cases from the files of a large insurance company, and from personal observation and treatment of many of these cases, as well as numerous cases in private practice, and in the Army, during the last ten years. The series of 3,000 head injuries occurred among 138,500 general accidents, during a period of seven years. In every 25 who received head injuries, 1 died, which was 30 per cent of all deaths during this period. Of these deaths 80 per cent occurred within 24 hours after the accident. There were many who made good recoveries within six months, even in the face of rather serious injuries, while a total of 67 are now classed as partial permanent or total permanent disability cases. There was one case of genuine traumatic insanity. Epilepsy occurred one time, as a result of head injury, but epilepsy was the *predisposing cause* of the accident in numerous instances. Hemiplegia, the most frequent major symptom in head injuries, ultimately recovered or partially recovered, in all cases, with or without operation, unless death intervened within 30 to 60 days after the accident. Cranial nerve injuries were a frequent occurrence, but total blindness or deafness did not result in any case from injury to the brain. Facial paralysis recovered in all central lesions, but was permanent in four peripheral injuries, while diplopia as a permanent disability also occurred four times.

*Read before the Section on Surgery, State Medical Association of Texas, Fort Worth, May 10, 1923.

In the 67 partial permanent or total permanent disability cases, over 75 per cent were from headaches or pain in the head, often associated with general weakness and vertigo. The severity of the pain has become less in many of these cases in from eight months to a year, and has disappeared in numerous cases after from two to five years time. Three patients with severe localized pain, apparently brain abscess cases of long duration, died within the last six months, without operation at any time. The majority of these cases had a definite fracture of the skull, and many of them had undergone trephine operations at the time of accident. Since there is no pain within the brain substance itself, and the bone had been removed extensively in numerous cases, the source of the pain was usually from meningeal irritation, due to adhesions between the damaged dura mater and the cranium, or between the dura and scar tissue within the brain substance, as a result of blood clots or from direct traumatism to the brain tissue.

Dural adhesions probably caused 90 per cent of the disturbance, while spicules of bone, cystic conditions, abscesses and bony changes were responsible for others. Adhesions between the scalp and meninges often produce much discomfort where a trephine has been made, or the intracranial pressure often causes pain and discomfort by pressing the meninges against the rough edges of the cranial wound. Constitutional diseases, such as syphilis, Bright's disease, or even malaria, may be contributing factors in producing discomfort in head injuries, but too much reliance must not be placed upon the coincidence of such diseases. I recently saw a man who died of a brain abscess, where a four plus Wassermann of the blood and spinal fluid had caused overzealous treatment for syphilis, with entire disregard of the symptoms of the abscess.

The average head injury with persisting pain, is less troublesome in private practice than in accident insurance work. When the pain is severe after several months duration, the private patient is usually anxious to have anything done that offers relief, and the surgeon is not restrained by the relatives and attorneys, or by the insurance company, which realizes that postoperative wounds in the cranium ordinarily preclude a reasonable adjustment, even though the discomfort may have been relieved.

Many of the cases in which incapacitation persists after six or eight months, are susceptible to cure or material improvement by proper surgical methods, just as similar pathology within the pelvis or abdomen is amenable to treatment. In industrial work.

the injury usually occurs on the top or side of the head, and is easily accessible for exploration by an osteoplastic flap, which may also be utilized, at times, where a trephine has been made at the time of the accident. In the absence of other causes, these tense adhesions can often be successfully removed, even though much of the dura is involved. In my opinion, fascia lata should be used in these cases, to the exclusion of all other material, in replacing the dura and brain tissue. Injury with pain involving the rolandic area, does not preclude an operation in that region. Recovery may be expected even though hemiplegia should result. Operative procedures of this nature, where properly carried out, are not attended with any more danger than the average exploratory abdominal operation. However, unexpected conditions are frequently met with in this work, due to unusual difficulty in making diagnoses. Abscesses, cysts and edema may be encountered, for instance, where adhesions are anticipated.

Various factors are responsible for this rather chaotic state of treatment in head-injury work. It is not possible to predict, with reasonable certainty, the duration of the headache or pain, more than to say that "It may disappear in a few months, or it may persist for several years, but practically all of them improve or recover in from five to ten years." The insurance company usually favors some kind of an adjustment wherein the injured man assumes the responsibility for delayed treatment. Rapid recovery sometimes ensues after settlement, but if actually incapacitated, the patient often has but little money left after a few months. Some continue to draw weekly compensation from year to year. Other cases may be settled in court, after long-drawn-out legal procedures, which are nerve-racking and expensive for those who are suffering from serious brain lesions.

My observation and experience in this work leads me to believe that only too often the surgeon unnecessarily loses his identity in these cases, and on the whole, the injured man and the insurance company are both losers by this process of eliminating proper treatment. The case reports which follow, illustrate the main points under consideration.

CASE REPORTS.

Case No. 1, was a man, aged 32 who had received a severe blow on the left upper part of the head. He was unconscious several hours, and had peripheral facial paralysis on the injured side. He also had paralysis of the leg on the side of the injury, from extension of hemorrhage over the left leg center. A well-marked parietal fracture was easily demonstrated by the *x*-ray. The patient made a good recovery, with the exception of an intense headache on the left side, which was relieved by resection of a badly torn and adherent dura, some eight months after the accident.

Case No. 2, was a man, 33 years old, who had contracted lues four years ago, and soon afterwards received an injury to the left postero-lateral region. After several months treatment for lues, he was still suffering from intense pain in the head. One year later he developed a left-sided paralysis. In a few months he regained fair use of his limbs, but used crutches and was in bed much of the time. He also developed frequent convulsive seizures. I saw him almost one year ago, and he was in a serious condition from constant pain and many convulsions each day. Radiograms revealed slight evidence of a fracture on the left side. This, in connection with the intense localized pain in the head, justified an exploratory operation of the cranium, which revealed a large hemorrhagic cyst in the brain substance, a result of the injury. He made a good recovery, has had very little pain and no convulsions for several months, and walks without crutches. The fact that he had cerebral syphilis overshadowed the evidence of a serious head injury.

Case No. 3, a man, aged 68, was injured 28 years ago by a small, localized blow on the left side of the head, near the crown. He was forced to remain in bed, after one week, due to headache. An operation was undertaken, but serious hemorrhage evidently developed, and the wound was probably tightly packed. At any rate, after the operation he had a right hemiplegia, which persisted for many years. Almost unbearable headaches and many daily epileptic seizures, developed. This condition persisted for over 20 years, then gradually subsided, until now the patient can get around with a cane, has no headache, and convulsions not oftener than three or four months apart. Beyond a doubt, this extreme disability could have been improved or relieved many years ago, by proper surgical procedures. Important structures were involved but not destroyed, and Nature's process was too slow in overcoming the disturbance to spare him a miserable existence, and the assurance of a pauper's grave.

SUMMARY.

1. More than 75 per cent of the late disabilities from head injuries in industrial work is due to headaches and to pain in the head which arise from injury to the dura mater and meninges, edema of the brain, spicules of bone, abscesses, cystic conditions, or from bony changes. Often, proper surgical procedures within a reasonable time after the injury will improve or relieve these discomforts.

2. As a rule, severe headaches and pain in the head will improve or disappear within a period of from 2 to 10 years, without intervention. Some people will become further incapacitated, or will die from local complications or general exhaustion, if not relieved.

3. Industrial head injury cases are usually more difficult to manage, from a surgical standpoint, than are similar cases in private practice.

4. Good judgment during the first twenty-four hours after head injuries, is a very important factor in the prevention of head

aches in many patients. Needless operations do harm. Failure to operate, when indicated, is a crime.

ABSTRACT OF DISCUSSION.

Dr. Hugh Crouse, El Paso: Until recent years, the morbid results of basilar and vault fractures were considered as hopeless propositions. Several years ago Cushing developed his technique of temporal decompression, primarily to meet the increased cranial pressure symptoms of brain lesions, such as tumors. It was recognized early that, accompanying or promptly subsequent to skull fractures, either basilar or vault, a subdural serous exudate occurred, and that in many of these cases there were subdural hemorrhages. In other words, the sequence to the trauma to the skull cap proper was a serous exudate, producing what was commonly called a wet-brain, with accompanying eye symptoms of increased cranial pressure.

In these cases, Cushing advocated not only temporal decompression, but the incising and drainage of the dura. Sharp, of New York, has popularized this method, and has made it quite evident that all cases of basilar or vault fracture, should be dealt with from a surgical angle. Careful *x*-ray diagnosis and careful interpretation of the plates, are the primary steps. An unconscious patient should not be neglected! The *x*-ray will differentiate between the stupor of uremia and the stupor from serous exudate in skull fracture.

Sharp has published a text covering a thousand cases of skull fractures, which every physician who is dealing with accident work, such as railway surgery or mine surgery, should read. The technique is not difficult, but there are a few points that one must remember. The dura should be incised. Some seem to feel that the simple elevation and removal of the temporal bone should be ample. The dura is dense, not elastic, and is frequently as much at fault as the skull proper. Clots that are in the immediate vicinity of the incised dura, if easily accessible, may be lightly broken up, and carefully irrigated out by using saline solution under low pressure.

Surgical curiosity is bad for the brain. The general surgeon's rough-and-ready methods of operating should not be employed in neurological or cerebral surgery. Post-injury headache cases, a great many epilepsy cases, many brain defect cases, just as in children in the Little syndrome, are due to scar tissue results that could have been obviated by dural drainage. Accident insurance companies should be conscious of this fact, and should insist that modern surgery be used in dealing with skull injuries. Careful diagnosis should precede operation, and should be the correlated work of the roentgenologist, the neurologist, the ophthalmologist and the surgeon.

Dr. J. W. Neely, Terrell: Sir Berkeley Moynihan has said that "a surgeon should have a lion's heart and a lady's hand." I think that nowhere in surgery is this saying more applicable than in operations for intracranial lesions of any kind. He should not touch the patient until he has read Sharp's book and found out *what* to do, *when* to do it, and *how* to do it. For the young surgeon, I am certain that this is the best book that can be found on the subject.

Dr. R. W. Knox, Houston: We had a very interesting case of headache of undetermined origin in our hospital. The patient was a railroad man, aged 45, with a negative past history. His headaches were very persistent, finally becoming so severe that he had light convulsions. His gait became ataxic, showing the presence of a brain lesion below the tentorium. Dr. Bloodgood, of Baltimore, saw this patient in our hospital, and suggested that he be placed under Dr. Walter Dandy of Johns Hopkins. Dr. Dandy diagnosed the case as tumor of the brain, and operated. To his very great surprise he found a condition that he had never seen before. The ventricles were filled with hydatid cysts, about the size of small bird's eggs, which were blocking the ventricular passage. The patient died after a prolonged illness.

Dr. William Lapat, Houston: The patient complaining of a headache usually has nothing but subjective symptoms. If a fracture is found, he probably *has* a real headache. Innumerable patients will remain sick for months and months in spite of all we can find or do. Ninety-seven out of 100 who show any sort of eye injury will complain that they can't see, but ninety per cent of them see very well. The matter in a nut-shell is that it is most difficult to know whether or not the patient actually has a headache. In injury compensation cases the patient wishes to get all he can out of the insurance company, and consequently subjective symptoms are hard to prove. If we are positive that our patient has a headache as a result of an old fracture, small fundus changes, and especially changes in the field of vision, will help you make the diagnosis. As to opening the skull, only one well versed in brain surgery has any business to do that.

HEAD INJURIES: RELATIVE VALUE OF FUNDI FINDINGS AND OTHER CLINICAL SYMPTOMS AS INDICATIONS FOR OPERATIVE INTERFERENCE.*

BY

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and

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In the following remarks only intracranial injuries will be referred to, and it will be conceded that depressed fractures of the skull need operation, even though they produce no immediate symptoms. There is, perhaps, no other subject in the entire field of surgery about which there is a greater diversity of opinion than the treatment of head injuries; we find equally competent men differing most decidedly as to the best procedure to follow. Just why this confusion should exist, forms an interesting conjecture. It is probably because we instinctively turn to our text-books when a perplexing problem confronts us. What we can learn from intracranial injuries from the average text-book is found in the chapter devoted to skull fractures.

We think it a fair criticism to say that the average text-book contains too many obsolete theories and discussions of nonessentials. Medicine, from its earliest history, has been a progressive science; and if we are to progress with it, we must not only distinguish between true and false teaching, but must be as eager to discard the latter as to embrace the former. In the application of this truth

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to the question of brain injuries, we find that, out of scores of signs, symptoms and tests described in the books, there are about a half dozen which, if correctly interpreted, will convey to us all the information there is to be gained. I will refer to them later.

In 1918, one of us (Dr. Thorning) read a paper on "Brain Injuries," before the South Texas District Medical Association and later before the Texas Surgical Society, in which he attempted to differentiate between cases requiring operative interference and those which would recover under palliative measures. In the main, we are affirming in this article conclusions reached in that paper, but as the author has been compelled to change his opinion along certain lines, we are herein recording his present belief.

Among other signs and symptoms mentioned in the paper above alluded to, the fundus changes were referred to as follows:

"My present opinion of this test is that it is of more importance than is generally recognized. Personally, I am forced to admit that I have never become sufficiently expert with the ophthalmoscope to detect these slight changes, and have found few ophthalmologists who can do so. It is quite true that when this papillo-edema has progressed to the stage of a choked disc, it becomes unmistakable and is evidence of increased pressure somewhere within the cranial cavity, but in my experience other and more reliable symptoms present themselves earlier."

About the time this paper was written, Sharp, of New York, published his book, in which he dilates upon the importance of early and repeated ophthalmoscopic examinations, and claims that even a slight increase of intracranial pressure, from any cause, can be detected in the fundus, more particularly in the optic discs. The work of Sharp, together with our own interest in the subject, induced one of us (Dr. Lapat), to begin a systematic study of the fundus changes occurring in a series of cases of skull fracture. Accordingly, with the sole object of determining the relative value of this test, he began a rather intensive study of twelve consecutive cases. The amount of work involved can be better understood when it is stated that many of these cases were observed at four-hour intervals, both day and night.

Of what value is ophthalmoscopic examination in head injuries? Will they aid us in coming to a conclusion as to what method of procedure to follow? To answer these questions we have looked up a number of authorities and have closely examined a number of our own cases.

Knapp says that in one group of cases there are symptoms of congestion and papillitis which occur directly after the injury to the skull, being caused by increased intracranial pressure and hemorrhage into the optic nerve. These conditions and the changes in the nerve may rapidly improve. In another group of cases the papillitis is usually due to infection. An authority in the American Encyclopedia of Ophthalmology says that intracranial hemorrhage is seldom the cause of choked disc; even with massive hemorrhages into the meningeal spaces, there are no changes seen in the eye grounds. Moorehead gives six important symptoms or signs of skull fracture, in the order of their significance. Papillitis is last.

Sharp, of New York, goes to the other extreme. He says that one can always tell the slightest increase of intracranial pressure by examining the eye grounds at frequent intervals. First, one sees a slight dilatation of the veins; next, a blurring of the nasal border in the discs, and finally, a general blurring. He furthermore says that "should the nasal blurring advance to a blurring of the entire disc, a decompression operation should be done." These signs, according to him, appear after the first six hours. He considers it of the utmost importance to examine these skull fractures at frequent intervals during the twenty-four hours.

We made an intensified study of the fundi of a few of our fracture cases, examining them four and five times a day and looking for the slight changes in the discs and vessels. In all of the cases, we first dilated the pupils with homatropin.

CASE REPORTS.

Case No. 1, was a fracture of the frontal bone. The temparature, pulse and respiration were normal. The fundi were negative and there were no other clinical findings. No operation was performed and the patient recovered.

Case No. 2, was a fracture of the right temporoparietal region. The patient was unconscious for 36 hours; the temperature was never above 98.5° F.; the lowest pulse rate was 70; the respiration was 20, and the blood pressure normal. A spinal puncture showed high tension, and gave temporary relief. The pupils were unequal, but there was no muscular paralysis. The fundi were negative, there being no signs of engorgement of the veins and the discs being markedly clear. The fundi were observed for one week after the operation, and no changes were noted. The operation disclosed both extra and subdural hemorrhage, with very large clots. Recovery followed the operation.

Case No. 3, was a fracture of the left temporal bone. The highest temperature was 100, the pulse was 52, the respiration 16, and the blood pressure normal. Fundus examination showed hemorrhage in the region of both discs, in the deep layers of the retina (this had entirely disappeared 15 days later). The spinal fluid was under tension and the patient was irrational. The operation showed both extra and subdural hemorrhage, and resulted in recovery.

Case No. 4, was a depressed fracture of the frontal bone, in a boy of 13. He entered the hospital 24 hours after the accident. Examination of the fundi showed the nasal side of both discs hazy and the veins engorged, but 48 hours later, and before opera-

tion, the discs had cleared up. The patient was conscious and answered questions intelligently. At operation a large subdural hemorrhage was found, and the cerebrospinal fluid literally shot out when the dura was incised. The case resulted in recovery.

Case No. 5, was a linear fracture from the frontal to the occipital regions, and the patient was unconscious one hour. There were no clinical findings, the fundi were negative. No operation was performed and recovery followed.

Case No. 6, was a fracture at the base. The fundi were examined six, nine, twelve and twenty hours after injury, with negative results. Clinically, the patient was in profound shock. He was not operated upon and death intervened in 36 hours.

Case No. 7, was a fracture at the base. The highest temperature was 98.8; the pulse was 78; the respiration 18; W. B. C., 14,600; spinal fluid pressure not increased and the fundi negative. The patient underwent no operation, and recovery ensued.

Case No. 8, was a fracture of the parietal region. There were no clinical signs of skull fracture. Fundus examination showed arterial hemorrhage at the center of the disc, but was otherwise negative. No operation was performed and recovery followed.

Case No. 9, was a fracture at the base. The patient was unconscious for four days and there was an escape of blood and cerebrospinal fluid from the left ear and paralysis of the left external rectus muscle. The fundi were examined three times daily, for one week, and no changes were noted. There was no operation. Recovery was complete, except for permanent left external rectus paralysis.

Case No. 10, was a fracture of the right parietal bone. There were no clinical findings and the fundi were negative. No operation was performed and recovery ensued.

Case No. 11, was a depressed fracture of the frontal bone, with no clinical symptoms. The fundi were negative. An operation was performed two hours after injury, which was followed by recovery.

Case No. 12, was a fracture at the base. The patient was seen at 11:00 a. m. He arrived at the hospital at 3:00 p. m., unconscious. The shock was most profound; the spinal fluid was under great tension. The left fundus was negative, but the right showed a marked choked disc. No operation was performed. Death occurred at 5:00 p. m.

Glancing over these cases, it will be noted that in numbers 3, 4, 8 and 12, there were fundi changes. In all of these cases the clinical signs were so pronounced that the condition of the optic discs had no influence on the procedure followed. In case No. 4, we found the disc borders clearing gradually, while the other symptoms pointed imperatively to operation. The operation disclosed a large subdural hemorrhage. Case No. 8 showed no clinical signs, and the patient recovered. Case No. 12 showed choked disc, but also, all other signs of intracranial pressure.

Had we allowed the fundus to influence us, case No. 2 would not have been operated upon; as it was, a large subdural and epidural hemorrhage was found. It is our opinion that repeated fundus examinations were of no help whatsoever, in determining the procedure in the above cases. If we are justified in concluding that fundus changes are of relatively slight importance in deciding for or against operative interference, we may well ask "What signs or symptoms *are* to be depended upon?"

In the paper above referred to (by Dr. Thorning), a method was described, of estimating the degree of increased pressure of the spinal fluid by attaching a thin, flexible rubber tube to a spinal puncture needle, which the author developed in 1908, and in regard to which he made the following statement: "For more than ten years this test, inaccurate as it is, has to me been the most dependable single test for determining the necessity for surgical interference."

This method has now been entirely superseded by the more dependable mercury manometer, which will denote pressure of fluid within the spinal canal with all the accuracy that the blood pressure can be recorded by the sphygmomanometer. With this increased accuracy of observation, our respect for this test has increased in proportion, until we now have no hesitation whatever in asserting that it stands out in bold relief above the many symptoms and tests described. The interpretation of the manometer reading is subject to slight differences of opinion; in other words, the limits of safety may be placed at slightly different figures by different observers. In a general way, however, we may say that a sufficient number of examinations will convince anyone of the dependability of this instrument, and of the reliance to be placed upon the test.

Next in importance we would place the temperature curve. Bathe Rawling, an English surgeon of distinction, believes that the temperature is our most reliable guide; that all cases of head injury can be grouped into four classes, and that an accurate prognosis can be given by carefully observing the temperature curve. The four groups are as follows:

"Group 1.—The temperature, at first subnormal, undergoes a rapid and progressive rise. Prognosis most unfavorable.

"Group 2.—The temperature, at first subnormal, rises gradually to 101° or 102° F., and there 'marks time.' This hesitancy marks the crisis of the case, further elevation indicating a fatal result, while a fall offers every hope of recovery.

"Group 3.—The temperature, at first subnormal, rises to normal and remains at that level. Prognosis very favorable.

"Group 4.—The temperature, at first subnormal, remains subnormal. The condition of shock persists, and the prognosis is most unfavorable."

We have found that this classification serves as a very satisfactory working basis in a majority of cases. We have had cases, however, where the temperature curve did not conform to the findings in testing the pressure of the spinal fluid, in which case we invariably depend upon the latter.

It is quite true that in most cases a rise in temperature from subnormal during shock to 101 or 102 degrees, Fahrenheit, is a hopeful sign; and that if the temperature rises to 105 or 106 degrees, Fahrenheit, the prognosis is very grave. But we have a record of a case which reached us on the third day after the accident, death intervening a short time later, in which the temperature never exceeded 101° F.

We have yet to see a case of serious brain injury which was not accompanied by some degree of shock, usually, a considerable amount; and many times, unfortunately, the shock so severe that death ensues within a few hours. This is, perhaps, the principal reason why the mortality from brain injuries will always remain high. It is undoubtedly the reason for the high operative mortality, for, under other circumstances, opening the skull should not be accompanied by greater danger than opening the abdomen. It is not only absolutely futile but positively wrong, to operate in these cases while the patients are in a condition of shock. If they cannot rally without operation, they most certainly cannot with it.

During the stage of shock, the pulse is rapid, weak and sometimes irregular, and tells us nothing, except that the patient is shocked. Later on, it may become a fairly reliable indicator. If it gradually drops to about the normal rate and volume and remains there, we may consider it confirmatory evidence that intracranial pressure is within safe limits, and that shock is being overcome. If, however, it continues to drop until it reaches 50, or below, the degree of compression has reached a dangerous stage. Unfortunately, this dangerous, even hopeless, stage may be reached while the pulse rate is still within normal limits.

Like the pulse and temperature, respiration can be said to offer valuable corroborative evidence, but not positive proof, of how a case is progressing. During shock the patient often breathes 30, 40 or 50 times per minute, and it is very gratifying to find, six or eight hours later, that the rate is down to normal. It is of great value to prognosis when the respiration falls to 6 or 8 per minute, and is of the Cheyne-Stokes type. In all our experience, we have never seen but one case recover after reaching this stage.

In nearly all the more modern text-books, a considerable degree of importance is placed upon the effect of intracranial pressure upon the general blood-pressure. In our opinion, this is generally overestimated. Certain it is, that one observation only, means nothing at all, at any particular stage of a case. If taken early, and repeated every hour or two, the blood-pressure undoubtedly will give some information. During the stage of shock we should expect to find it low, just as we expect to find a subnormal temperature, and a rapid pulse and respiratory rate. If it gradually rises to normal with the temperature, and while the pulse and the respiration are descending to normal, then we may infer that all is going well. If it continues to rise to 175 or 200, we should consider it an indication that the intracranial pressure is also high. To be a reliable test, it must conform to other findings and agree with the rest of the clinical picture. Not so very long ago, one of us (Dr. Thorning) saw a case in consultation, 60 hours after an accident, in which the attending physician argued that inasmuch as the blood pressure was only a scant 100, no operation was indicated. It was agreed that no operation should be contemplated, as the patient had a pulse of 160, a temperature of 105° F., rapid and shallow respiration, and a very marked choked disc. Three hours later he was dead.

CONCLUSIONS.

1. Head injuries are potentially serious accidents, and the mortality from them must necessarily remain high.

2. It may be somewhat surprising, but it is nevertheless true, that there are still wide differences of opinion among equally competent and well-trained surgeons, regarding the necessity for surgical interference in any given cases.

3. By intelligently observing a very few signs and symptoms, one can ordinarily arrive at a correct conclusion as to whether the injury is mild or severe, and whether surgical or nonsurgical measures are indicated.

4. Cases of head injury should not be operated upon during the period of shock, nor in the late stages when continued compression of the medulla has made recovery impossible under any method of treatment.

ABSTRACT OF DISCUSSION.

Dr. E. R. Carpenter, Dallas: The fundi examinations are very valuable in from 80 to 90 per cent of cases, as Dr. Thorning says, and in the negative cases the spinal fluid investigation is usually sufficient to clear up the question. However, the field of vision should be taken in all head injury cases,

just as soon as it is practicable. The optic nerve fibers are frequently involved, since they extend along the base of the brain, through a portion of the temporo-sphenoidal and to the back part of the occipital lobe. Recently, I had a patient who had been confined to his bed for several weeks, from brain trouble. He had jacksonian epilepsy, fluctuating fever, and other indications of a brain abscess. The trouble was supposed to be principally in the rolandic area on the left side. However, operation revealed that the main part of the abscess was in the left occipital lobe. No doubt, had a careful examination been made of his field of vision, it would have demonstrated the occipital lesion, long before the motor area became involved. The same principle applies to injuries of the head.

Dr. R. E. B. Bledsoe, Taylor: I believe that the choked disc shows up as a result of pressure and is a late finding. As to examining the fields of vision, of course, that would be done in those cases which are not so serious. I think this paper had to deal largely with severe cases of head injury, and it would be manifestly impossible to make use of the perimeter to ascertain the range of vision in such cases. The point that the doctor has well brought out is, that choked disc is a late manifestation in head injury cases. I believe, from what little experience I have had, that the guide to the patient's condition should be largely the pressure of the spinal fluid. In fact, in such cases, lumbar puncture has cleared up the diagnosis for me.

Dr. Lapat (closing): I am extremely sorry that Dr. Thorning is not here to take care of this discussion, and to show what he has done in the treatment of head injuries. As far as the disc is concerned, the same thing can be said of the blood pressure—we don't know what the patient had before the injury. The variations in a normal fundus are great. A marked hyperopia will give a disc which not only appears to be blurred, but looks like an actual papillitis. What Dr. Carpenter says in regard to the field of vision is only too true. We were not discussing examination of the patient after he is well, but whether the patient should be operated upon immediately. I believe that a patient should be observed for at least a year after a head injury, and his fields of vision taken every three or four months. A patient may develop optic nerve atrophy without knowing it.

MISCELLANEOUS

SAN ANTONIO.*

Many American cities have claimed the distinction of being the Winter Playground of America but no city the world over can better substantiate its claim by pointing to a more varied program of national events, staged during the winter months, than can San Antonio, Texas, the City of the Immortal Alamo.

An aggressive citizenship is taking advantage of an almost ideal winter climate to stage events that will not only entertain the thousands of tourists who annually spend the winter in the city, enjoying the parks, plazas and playgrounds, but also those national attractions which turn the attention of the entire country to San Antonio as the mecca of diversified sports and spectacular events.

During the Christmas Holidays there was staged a National Polo Tournament, under the direction of the United States Army. Twenty college, civilian and army teams, competed in events that extended over a period of two weeks, with horse-shows, gymkhanas and social events of entertainment for the visiting poloists.

An innovation of this tournament was the college events. Texas A. & M. College, New Mexico Military University, the University of Arizona, Colorado Agricultural College and the University of Okla-

ST. ANTHONY HOTEL

homa, sent teams to participate. It was the first time in the history of polo that college teams had had an opportunity to compete in the west or south in such an extensive program as was carried out. The college tournament was won by the University of Arizona, by daring horsemanship and deadly accuracy with the mallet, and national polo players who witnessed their triumph pronounced them in a class with the best of eastern teams. Civilian teams

A VIEW OF ALAMO PLAZA

came from as far away as Detroit, and all the Army posts and camps in the Southwest entered teams in the tournament.

Next year, it is to be put on on a much more extensive scale. A larger tournament can be handled admirably, inasmuch as San Antonio has five excellent polo fields, the finest being the Municipal Field

*Furnished for publication by the Publicity Committee, Dr. R. E. Bowen, Chairman, San Antonio.

in Brackenridge Park. It is planned to bring the champions of the East to San Antonio to play the champions of the West, during Christmas week.

The first event planned by San Antonians to bring

GUNTER HOTEL

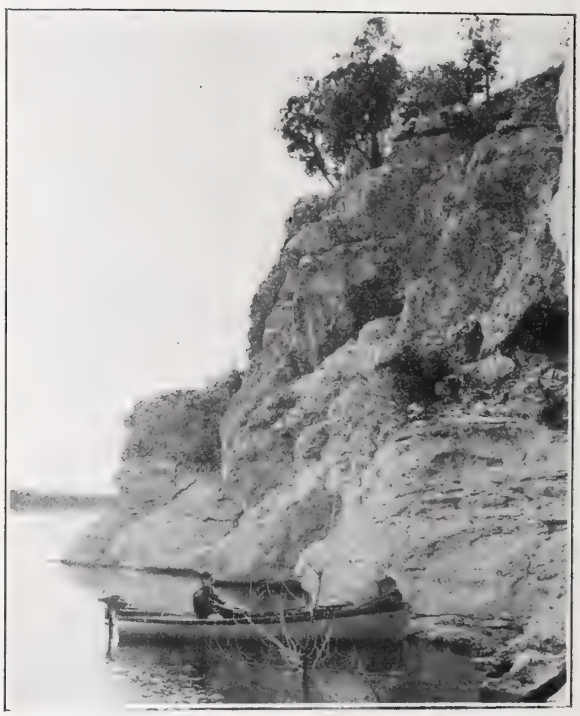
their excellent golf facilities to the attention of the country, was the Texas Open Golf Championship, which was played the 14th and 16th of February, of this year. This is the largest tournament for the

THE ALAMO—CRADLE OF TEXAS LIBERTY

biggest purse in golfdom. It was staged on the Municipal Course in Brackenridge Park. It is the third time the Texas Open Golf Tournament has been held, and this year, as in the past, no less than six champions were here to participate in the events, including Joe Kirkwood, Australian champion, Bob MacDonald, Metropolitan king and Gene Sarazen, American professional champion. Amateurs from all sections of the United States came to participate in the best ball events, when more than 100 stars of golfdom struggle to carry away a share of the $6,000 purse.

The Fiesta San Jacinto has always been a sterling event in the civic and social life of San Antonio, celebrating as it does, the victory at San Jacinto. It is made not only a week of celebration but also a most impressive event, reaching its height in the Battle of Flowers Parade, when blossoms are scattered over the Alamo, to bedeck the graves of those who fell in the immortal defense of Texas, and died so gloriously in this quaint old chapel.

The crowning attraction of the Fiesta held during the week of April 21st, is the National Balloon Race. Already the foremost balloon pilots of the country have signified their satisfaction that San Antonio has been chosen as the starting point, because of ideal weather conditions that prevail at all times and opportunities for long distance flights, with minimum



A VIEW OF MEDINA LAKE

danger to participants. The winner of these races will represent the United States in the Gordon-Bennet Cup Race. Not only will this event be spectacular but at the same time the United States Army will stage a series of exhibitions and shows, which can be put on at Kelly Field, the largest aviation center in the United States, and at Brooks Field, the primary flying school of the Army, and around old Fort Sam Houston, headquarters of the Southern Department and the famous Second Division, as in no other place in the United States, because of the great concentration of Uncle Sam's fighting forces in and about San Antonio.

Forms of recreation for the young and old have become so varied in character and universal in demand, that few cities have kept pace with adequate facilities for the enjoyment of all their various ramifications, but San Antonians were early in recogniz-

ing their advantages and have attempted to keep abreast, despite the fact that the city has experienced a phenomenal growth far beyond that of other winter resorts. A comprehensive program of outdoor amusement has attracted the attention and received the commendations of those who demand the best in comfort and convenience.

For continuous days of uninterrupted play time, San Antonio has already been established as the outstanding American City. An early recognition of the climatic and health proclivities of this section was evinced by the United States government long before the World War, when Southern Department Headquarters was established here. Commanding officers are able to lay out a program of training that can be carried on almost uninterruptedly throughout the year.

San Antonio's invigorating climate early attracted the attention of trainers of national baseball organizations, and John McGraw, the master strategist of baseball, has many times avowed that San Antonio has the best climate in America for training baseball players: this is borne out by the fact that few days have been lost by the Giants during spring training, and that three successive pennants have been won by them. Last winter when stormy and frigid weather kept teams in other portions of the South indoors, the Giants trained continuously.

The Municipal Golf Course at Brackenridge Park, is San Antonio's outstanding recreational accomplishment. The park itself affords to those who would enjoy its drives, its beautiful scenery, its winding picturesque river, its concerts and its picnic spots, a never ending source of joy. It is the playground of all San Antonio, and its situation is such that the poor, as well as the rich, join in hours of pleasure beneath its pecan and live oak trees. Few cities have placed tables, fire wood and small cooking spots in their parks to the extent found in Brackenridge Park, and it seems throughout its great expanse that every nook and corner contains some delight for old and young.

But the charm of the golf course is beyond description, and only those who have played over its attractive 18 holes can appreciate the work of the master hands that laid it out. Every hole has its thrill. The long narrow airways; the smooth velvety greens as attractive in winter as in summer; the hidden water hazards and bunkers, and the opportunity for those who are expert in the game to show their skill, have made it known throughout golfdom.

The San Antonio Country Club course, while private, is extensively used by visitors, because of the lenient policy which its directors have adopted in allowing its members to entertain their friends there. The completion of the course at the Alamo Country Club will again add to San Antonio's facilities, and sooner or later there will be a development in the outskirts of this city, of pay-as-you-enter courses that will appeal to those who will spend the entire winter in San Antonio and pay roundly for the privilege of playing. The great expanse of territory surrounding San Antonio, which is yet undeveloped, will probably see other courses even more extensive and picturesque than those which have already been built in the city.

SCENE ON THE MUNICIPAL GOLF COURSE IN BRACKENRIDGE PARK

The advent of the motor car as a means of recreation and enjoyment, has made doubly important the hard surfaced roads. The number of miles of roads in Bexar county exceeds that of any other county in the United States, except one in Maryland, and until recently this county had 50 per cent of the paved roads in Texas. The motor enthusiast is a peculiar type of sport lover. He desires to ride, and seldom uses the motor car as a means to an end, except to the end of pure enjoyment of speed and sightseeing. The points connected by San Antonio's good roads have added greatly to the enjoyment that can be obtained by motor car, for they lead to most attractive spots, where fish and game abound, to boat-

ing and to seclusion in the hills, canyons and hidden lakes, near San Antonio.

The last big game hunting section in the United States is in the territory surrounding this city. In no part of America is there a finer combination of hunting and fishing than in this immediate vicinity. Deer are plentiful as well as turkey, and there are myriads of small game in the hills and pastures of Southwest Texas.

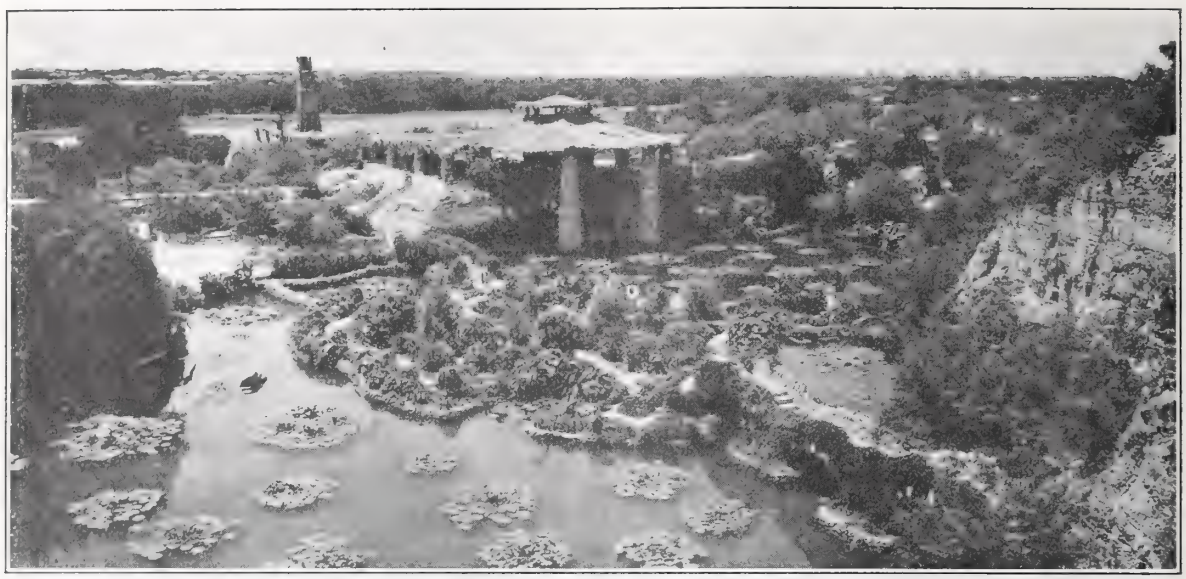
Medina Lake, which is fast receiving national recognition as furnishing the best bass fishing to be found anywhere, will receive added laurels when the fish hatchery is completed by the Government. This hatchery will be for Medina Lake alone, and will turn more than 250,000 bass and trout into its water annually, where fishing will be as good in January as in July. The picturesqueness of this lake, with its beautiful wooded shores, perpendicular cliffs and wide-mouthed coves, reaching far back into the hills, makes it attractive to winter fisherman, campers and adventurers as well. Deer and turkey are abundant on its shores, and small game abounds everywhere. The possibilities offered for scenic drives and motor-boat trips, has broadened its development, and in a few years it is doubtful if there will be a more attractive place in the entire country than Medina Lake. Someone has said that "Man made the town, but God made the country," but in San Antonio so many of the God-made features still exist that San Antonio is different from any city its size. The sparkling river, winding through the residential and business district, lined with huge forest trees and beautified by the hand of man, provides a distinct charm by breaking the monotony of commercial bustle.

San Pedro Springs and the pool at the head of San Antonio river, the gushing artesian wells and the mineral springs, are attractions seldom found in a great metropolis. The quaint plazas, breaking the monotony of city blocks, small parks here and there, filled with palms, huisache and hackberry, provides a semitropical atmosphere. The old Franciscan missions, including the Alamo, are historic relics unrivalled anywhere. Some of the narrow streets built by the early settlers still remain. The old Spanish Government Palace, and numerous other historic and picturesque spots within the city, add to the charm that San Antonio holds for the visitor.

Sparkling social life of army and civilian mingle. The military atmosphere at the post, in the ballroom and residence, in the city where tourist and traveler mingle, hero and novelist meet, make the social life of San Antonio distinctive. From the very beginning the residents of San Antonio have listened to the rattle of saber and call of bugle, and on holiday and fiesta soldier and civilian work and play hand in hand.

San Antonio is within easy reach of the Gulf coast, where tarpon fishing can be enjoyed and where ducks are even more plentiful in winter than at Medina Lake. Unrivalled climate has made possible the enjoyment of long days in the open, where the Gulf breeze, tempered by soft, warm sunshine, changes the winter months into perpetual springtime.

The growth of San Antonio as the winter playground has been on a firm foundation, and never have its facilities been overestimated or its advantages so advertised that visitors have gone away disappointed.



THE SUNKEN GARDEN AND LILY POND IN BRACKENRIDGE PARK

SPECIMENS TAENIA SOLIUM WANTED.

The Hygienic Laboratory, U. S. P. H. S., at Washington, D. C., announces that requests have been received from various medical schools for specimens of *Taenia solium* for use in the study of parasitic diseases in man. These requests could not be complied with because the specimens sent to the laboratory for determination have been *Taenia saginata*, the unarmed form. During the past thirty years, not a single specimen of *Taenia solium* has reached the laboratory.

The armed species, *Taenia solium*, undoubtedly occurs in Texas, as on Government inspection, hog meat from that state has been found, which was infected with the larval stage *Cysticercus cellulosae* Since *Taenia solium* is very valuable scientific material at present, and very difficult to obtain, Texas phyisicians are requested by Dr. C. W. Stiles to send specimens of tapeworms obtained in their practice, to the Department of Zoology, State University, or to other medical schools in Texas, in order that these specimens may be preserved for teaching purposes. Dr. Stiles would also appreciate it very much if some Texas physician would send him a few specimens.

Announcements and Program

OF THE

FIFTY-EIGHTH ANNUAL SESSION

OF THE

State Medical Association of Texas

April 29, 30 and May 1, 1924
SAN ANTONIO, TEXAS

OFFICERS

Dr. A. C. Scott, President.....Temple
Dr. M. F. Bledsoe, President-Elect.....Port Arthur
Dr. J. W. Torbett, Vice-President.....Marlin
Dr. A. A. Ross, Vice-President.....Lockhart
Dr. J. N. White, Vice-President.....Texarkana
Dr. Holman Taylor, Secretary.....Fort Worth
Dr. K. H. Beall, Treasurer.....Fort Worth

BOARD OF TRUSTEES

Dr. John S. Turner (four years).....Dallas
Dr. W. B. Russ (three years).....San Antonio
Dr. John T. Moore, Chm. (two years).....Houston
Dr. W. R. Thompson, Secy. (one year).....Fort Worth
Dr. M. L. Graves (term expires).....Galveston

COUNCILORS

First District

Dr. R. B. Homan (term expires).....El Paso

Second District

Dr. P. C. Coleman (two years).....Colorado

Third District

Dr. R. S. Killough (one year).....Amarillo

Fourth District

Dr. Joe E. Dildy (term expires).....Brownwood

Fifth District

Dr. C. S. Venable (one year).....San Antonio

Sixth District

Dr. F. U. Painter (one year).....Corpus Christi

Seventh District

Dr. Joe Gilbert (two years).....Austin

Eighth District

Dr. O. S. McMullen (two years).....Victoria

Ninth District

Dr. W. B. Thorning (two years).....Houston

Tenth District

Dr. D. S. Wier (two years).....Beaumont

Eleventh District

Dr. R. H. McLeod (term expires).....Palestine

Twelfth District

Dr. N. D. Buie (one year).....Marlin

Thirteenth District

Dr. J. F. Bunkley (term expires).....Seymour

Fourteenth District

Dr. A. B. Small (term expires).....Dallas

Fifteenth District

Dr. J. K. Smith (one year).....Texarkana

DELEGATES TO A. M. A.

Delegates

Dr. J. W. Burns (term expires).....Cuero
Dr. E. H. Cary (term expires).....Dallas
Dr. Holman Taylor (one year).....Fort Worth
Dr. S. P. Rice (one year).....Marlin
Dr. Joe Becton (one year).....Greenville

Alternates

Dr. Wallace Ralston (term expires).....Houston
Dr. R. W. Knox (term expires).....Houston
Dr. M. L. Graves (one year).....Galveston
Dr. H. F. Connally (one year).....Waco
Dr. G. B. Foscue (one year).....Waco

COUNCIL ON LEGISLATION AND PUBLIC INSTRUCTION

Dr. A. C. Scott, Chairman (ex-officio), Temple.
Dr. Holman Taylor, Sec'y (ex-officio), Fort Worth.
Dr. W. B. Thorning (ex-officio), Houston.
Dr. A. A. Ross (two years), Lockhart.
Dr. M. F. Bledsoe (two years), Port Arthur.
Dr. W. B. Russ (two years), San Antonio.
Dr. Joe Becton (one year), Greenville.
Dr. S. E. Thompson (one year), Kerrville.
Dr. A. F. Beverly (one year), Austin.
Dr. C. M. Rosser (term expires), Dallas.
Dr. I. C. Chase (term expires), Fort Worth.
Dr. H. W. Cummings (term expires), Hearne.

COUNCIL ON MEDICAL DEFENSE

Dr. W. D. Jones, Chairman (two years), Dallas.
Dr. Holman Taylor, Sec'y (ex-officio), Fort Worth.
Dr. F. P. Miller (one year), El Paso.
Dr. A. P. Howard (term expires), Houston.

COMMITTEES

Committee on Scientific Work.

Dr. J. J. Terrill, Chairman, Dallas.
Dr. E. V. DePew, San Antonio.
Dr. M. D. Levy, Houston.
Dr. C. P. Brewer, Fort Worth.
Dr. C. T. Stone, Galveston.

Committee on Collection and Preservation of Records.

Dr. Frank Paschal, Chairman, San Antonio.
Dr. M. L. Graves, Galveston.
Dr. J. D. Osborn, Cleburne.
Dr. S. P. Rice, Marlin.

Committee on Memorial Exercises.

Dr. H. W. Cummings, Chairman, Hearne.
Dr. A. A. Ross, Lockhart.
Dr. Thos. Dorbandt, San Antonio.
Dr. J. D. Lain, Sanger.
Dr. S. A. Collom, Texarkana.

Committee on Transportation.

Dr. Holman Taylor, Chairman, Fort Worth.
Dr. R. L. Ramey, El Paso.
Dr. S. P. Cunningham, San Antonio.
Dr. Bacon Saunders, Fort Worth.
Dr. Chas. P. Yeager, Kingsville.

Committee on Arrangements for the Annual Session.

Dr. W. H. Hargis, Chairman, San Antonio.
Dr. R. E. Bowen, San Antonio.
Dr. W. B. Russ, San Antonio.
Dr. Thos. Dorbandt, San Antonio.
Dr. D. Berrey, San Antonio.

Committee on Publicity.

Dr. R. E. Bowen, Chairman, San Antonio.
Dr. R. S. Adams, San Antonio.
Dr. L. J. Manhoff, San Antonio.
Dr. F. N. Haggard, San Antonio.
Dr. J. A. McIntosh, San Antonio.

Committee on Scientific Exhibits.

Dr. B. F. Stout, Chairman, San Antonio.
Dr. Violet Keiller, Galveston.
Dr. Will Horn, Fort Worth.
Dr. W. W. Waite, El Paso.
Dr. R. C. Curtis, Corsicana.

Committee on Medical Education.

Dr. Marvin L. Graves, Chairman, Galveston.
Dr. J. N. White, Texarkana.
Dr. Calvin R. Hannah, Dallas.

Dr. H. M. Lanham, Waco.
Dr. Dru McMickin, Beaumont.

Committee on Hospital Standardization.

Dr. F. P. Miller, Chairman, El Paso.
Dr. H. R. Dudgeon, Waco.
Dr. J. J. Crume, Amarillo.
Dr. Curtice Rosser, Dallas.
Dr. Chas. R. Johnson, Gainesville.

Committee on Compensation and Health Insurance.

Dr. A. P. Howard, Chairman, Houston.
Dr. W. D. Cross, Corsicana.
Dr. T. R. Sealy, Santa Anna.
Dr. Claude R. Scaff, Clarksville.
Dr. H. K. Hinde, San Angelo.

Committee on Cancer.

Dr. I. L. McGlasson, Chairman, San Antonio.
Dr. A. O. Singleton, Galveston.
Dr. J. C. Anderson, Plainview.
Dr. A. I. Folsom, Dallas.
Dr. W. L. Brown, El Paso.

Committee on Health Problems in Education.

Dr. J. M. Frazier, Chairman, Belton.
Dr. W. A. King, San Antonio.
Dr. J. W. Torbett, Marlin.
Dr. J. H. Burnett, Kopperl.
Dr. Guy F. Witt, Dallas.

Committee on Revision of Constitution and By-Laws.

Dr. John T. Moore, Houston.
Dr. M. F. Bledsoe, Port Arthur.
Dr. F. P. Miller, El Paso.
Dr. W. B. Russ, San Antonio.
Dr. Winfred Wilson, Memphis.
Dr. A. C. Scott (ex-officio), Temple.
Dr. Joe Becton (ex-officio), Greenville.
Dr. Holman Taylor (ex-officio), Fort Worth.

SPECIAL DELEGATES

Texas Member of the National Legislative Council.

Dr. M. F. Bledsoe, Port Arthur.

Texas Representative National Council on Medical Education.

Dr. M. L. Graves, Galveston.

Texas Delegate to the Association of American Medical Colleges.

Dr. Wm. Keiller, Galveston.

To the Texas Dental Society.

Dr. C. S. Venable, San Antonio.

To the Texas Pharmaceutical Association.

Dr. M. B. Stokes, Houston.

To the Arkansas Medical Society.

Dr. C. A. Smith, Texarkana.

To the Colorado State Medical Society.

Dr. John H. Foster, Houston.

To the Louisiana State Medical Society.

Dr. S. C. Red, Houston.

To the New Mexico State Medical Association.

Dr. R. B. Homan, El Paso.

To the Oklahoma State Medical Association.

Dr. C. M. Rosser, Dallas.

To the Texas Association of Sanitarians.

Dr. R. McCarmack, Waco.

LOCAL COMMITTEES

Committee on Arrangements.—Dr. W. H. Hargis, chairman; Drs. R. E. Bowen, W. B. Russ, Thos. Dorbandt, D. Berrey.

Committee on Finance.—Dr. E. V. DePew, chairman; Drs. S. T. Lowrey, B. F. Stout, L. M. Weinfield, C. L. Milburn, R. S. Adams.

Committee on Halls.—Dr. S. C. Applewhite, chairman; Drs. W. S. Hamilton, R. S. Adams, C. E. Scull, J. L. Pridgen.

Committee on Exhibits.—Dr. Harry Leap, chairman; Drs. R. S. Jackson, G. L. Johnson, W. M. Barron, J. W. Goode.

Committee on Lanterns.—Dr. W. H. Cade, chairman; Drs. C. F. Lehman, P. I. Nixon, Cole Kelley, G. A. Pagenstecher.

Committee on Alumni Banquets.—Dr. Roy T. Goodwin, chairman; Drs. Dudley Jackson, J. A. McIntosh, George Paschal, Homer T. Wilson.

Committee on Hotels.—Dr. J. W. Nixon, chairman; Drs. E. W. McCamish, Thad Shaw, S. S. Beakley, L. K. Beck.

Committee on Entertainment.—Dr. I. L. McGlasson, chairman; Drs. O. H. Judkins, Minnie O'Brien, A. F. Clark, J. H. Bigger, Mary Harper, J. A. Watts, L. B. Jackson, C. M. Cotham, W. E. Burke, C. A. R. Campbell, O. H. Timmons, M. A. Forbes.

Committee on Golf.—Dr. J. H. Burleson, chairman; Drs. E. M. Sykes, F. L. Paschal, J. S. Steel, C. C. Cade.

Committee on Woman's Auxiliary.—Mrs. J. H. Bigger, chairman; Mesdames F. C. Walsh, H. McC. Johnson, J. A. Watts, W. E. Nesbit, Homer T. Wilson, E. W. McCamish, C. E. Scull, R. L. Dinwiddie.

Committee on Public Lectures.—Dr. C. C. Cade, chairman; Drs. C. S. Venable, W. E. Nesbit, T. L. Moody, P. G. Bowen.

THE WOMAN'S AUXILIARY TO THE STATE MEDICAL ASSOCIATION OF TEXAS

President, Mrs. W. A. Wood, Waco; President-Elect, Mrs. J. O. McReynolds, Dallas; Vice-Presidents, Mesdames S. H. Collom, Texarkana; R. D. Gist, Amarillo, and M. F. Bledsoe, Port Arthur; Recording Secretary, Mrs. Harry Haden, Houston; Corresponding Secretary, Mrs. I. E. Colgin, Waco; Treasurer, Mrs. W. M. Young, Dallas.

ANNOUNCEMENTS

BUSINESS.

The Registration Office will be in the main lobby of the St. Anthony Hotel, Travis and Navarro Streets, one block from Houston Street.

An Information Bureau will be located in the lobby, near the registration office, where information may be received concerning places of meeting, hotels, railroads, street cars, entertainments, etc. Badges and programs will be given out at the registration office. Members, guests and visitors are urged to register as soon as they arrive in the city.

The Opening Exercises will be held in Hall No. 3, the Ball Room of the Gunter Hotel.

All other General Sessions, including the Memorial Services, will be held in Hall No. 1, the Travis Park Methodist Church, corner Travis and Navarro Streets, directly in front of the St. Anthony Hotel.

The President's Reception will be held in the Roof Garden of the St. Anthony Hotel.

The House of Delegates will meet in Hall No. 2, the Pink Room, on the Mezzanine Floor of the Gunter Hotel.

All Scientific Sessions will be held in the Gunter and St. Anthony Hotels, as follows:

Hall No. 3, Ball Room, Gunter Hotel, Section on Medicine and Diseases of Children.

Hall No. 4, Ball Room, St. Anthony Hotel, Surgery.

Hall No. 5, Army Room, Gunter Hotel, Section on Ophthalmology, Otology, Rhinology and Laryngology,

Hall No. 6, Red Room, St. Anthony Hotel, Section on State Medicine and Public Hygiene.

Hall No. 7, Tapestry Room, St. Anthony Hotel, Section on Gynecology and Obstetrics.

All mail and telegrams should be directed to the Information Bureau, care of the State Medical Association, St. Anthony Hotel, San Antonio, Texas. Members are urged to leave their names and local addresses with the Information Bureau immediately upon arrival, in order that mail and telegrams may be properly delivered.

Official announcements will be posted on bulletin boards at the Registration Office.

Commercial Exhibits will be displayed in the main lobby of the St. Anthony Hotel. All exhibits will be required to comply in every particular with the advertising standards of the TEXAS STATE JOURNAL OF MEDICINE, which are practically identical with those of *The Journal of the American Medical Association.* Dr. H. L. Leap is chairman of the Committee on Exhibits, to whom application for space should be made.

SOCIAL.

A Reception Committee representing the Woman's Auxiliary of the Bexar County Medical Society, will be on duty at the principal hotels and at the office of registration, until noon of Wednesday, April 30, for the purpose of receiving visiting women and furnishing them with such information as they may desire.

As the program of entertainment will be crowded, the announced time of starting will be adhered to in every case.

MONDAY, APRIL 28.

Committee from the Woman's Auxiliary will meet guests at the principal hotels during the day.

TUESDAY, APRIL 29.

2:30 p. m., a meeting of the Executive Board of the Woman's Auxiliary of the State Medical Association will be held in the Oak Room, second floor of the St. Anthony Hotel.

9:30 p. m., there will be a musical and get-together meeting, immediately following the Memorial Service, in the Tapestry Room of the St. Anthony Hotel, for the visiting ladies.

9:30 p. m., Alumni banquets and private dinners will be held, as arranged for by the various organizations concerned. Under no circumstances should they begin before the hour set.

WEDNESDAY, APRIL 30.

10:00 a. m., Business meeting, State Auxiliary, Main Dining Room of the St. Anthony Hotel. At this time the President of the Woman's Auxiliary will deliver her annual address, reports from delegates will be heard, and the election of officers held. Mrs. S. C. Red, President of the National Auxiliary, and Dr. A. C. Scott, President of the State Medical Association, will deliver addresses at this meeting. The business side of this meeting will be for members of the Auxiliary. Others are invited to attend. The proceedings will be of interest to all.

12:00, Noon, Luncheon, complimentary to Mrs. Wood, State President of the Woman's Auxiliary to the State Medical Association, at the St. Anthony Hotel Roof Garden.

6:00 p. m., Mexican Supper and Entertainment at the Mexican Village, Brackenridge Park.

9:30 p. m., Reception to Dr. Scott, at the St. Anthony Hotel Roof Garden.

THURSDAY, MAY 1.

7:00 a. m., May Day Breakfast and Swimming Party, San Pedro Park—the best swimming in Texas, in a beautiful new pool built in picturesque and historical old San Pedro Park (for everybody).

3:00 to 5:00 p. m., Tea at the Alamo Country Club, complimentary to the Women Physicians and members of the Woman's Auxiliary.

GOLF.

The Golf Committee has arranged a tournament, best ball, eighteen holes, medal play, with club handicap. Those who intend to play will furnish the Chairman of Golf Committee their handicap, signed by their club secretary, before starting, or by registering at the Information Bureau in the lobby of the St. Anthony Hotel, stating the hours of play. Play may be either in twosomes or foursomes. There will be no entrance fee. The golf course at the San Antonio Country Club and the Alamo Country Club, will be open to guests. The tournament will be played at the San Antonio Country Club. Players may enter at any time during their stay in the city, April 29, 30 and May 1. The trophy will be presented at noon, May 1.

MEMORIAL SERVICES.

Memorial Services will be conducted by the Chairman of the Committee on Memorial Exercises, Dr. W. H. Cummings of Hearne, in the Travis Park Methodist Church, corner Travis and Navarro Sts., Tuesday evening, April 29, beginning promptly at 8:00 o'clock. The names of members who have died during the preceding twelve months will be presented at this time. Members who know of the death of any members, notice of which has not appeared in the JOURNAL, should immediately communicate the facts to the State Secretary, or the Chairman of the Memorial Committee.

ALUMNI BANQUETS.

9:30 p. m., Tuesday, April 29, alumni banquets, reunions, and the like, will be held, as arranged by the chairman of the local committee, Dr. Roy T. Goodwin, Gibbs Building. Tickets will be on sale near the Information Bureau, main lobby, St. Anthony Hotel. The banquets will follow the Memorial Exercises. Under no circumstances will they begin before the hour set.

RATES.

Tickets will be on sale April 27, 28 and 29, at one and one-half fare for the round trip, on the identification plan, with return limit May 4. The round trip ticket will be sold by any road in Texas, on the presentation of an identification certificate bearing the signature of the State Secretary, Dr. Holman Taylor. These certificates may be had upon application to county society secretaries, or to the State Secretary, at Fort Worth. The certificates will be numbered and will be good for the purchase of tickets for members and their dependents only.

OTHER MEETINGS.

The Texas Railway Surgical and Hygienical Association, the Texas Radiological Society and the State Pathological Society of Texas, will meet Monday, April 28. There will be a conference on health problems on the same day (Hall No. 6, Red Room, St. Anthony Hotel), under the direction of the State Board of Health. Members of the State Medical Association are invited to attend the meetings of these organizations. Programs of these meetings are published with the programs of the Scientific Sections (following).

HOTELS.

(Dr. J. W. Nixon, Moore Building, Chairman Hotel Committee.)

Crockett.—Rooms without bath, one person, $1.50; two persons, $2.00. Rooms with bath, one person, $2.50; two persons, $3.00.

Gunter.—(House of Delegates Headquarters.)—Room, detached bath, $2.00 per person per day; private bath, $2.50 to $4.00 per person per day.

Jefferson.—Room without bath, one person, $1.50; two persons, $2.50; with tub or shower bath, one person, $2.00; two persons, $3.00. Large rooms, two beds and bath, special rate to members with families, $3.50.

Lanier.—Single room without bath, $1.50 to $2.00; with bath, $2.50 to $3.00. Double room without bath, two persons, $3.00; each extra guest, $1.50: double room with bath, two persons, $4.00, each extra guest, $2.00.

Robt. E. Lee.—Double room with bath, $3.50.

Menger—Room without bath, single, $1.50 to $2.00; double, $2.50 to $3.00. Room with bath, single, $2.50 to $3.50; double, $4.00 to $6.00. Rooms with bath, double twin beds, $6.00 to $8.00.

Prudential.—Single room without bath, $1.50; double, $2.50. Single room with bath, $2.00 to $2.50; double, $3.00 to $4.00.

St. Anthony.—(Registrations Headquarters.)—Room with bath, $2.50 to $4.00 per person; without bath, $2.00 per person.

Travelers.—Single room, one double bed, without bath, one person, $1.50; two persons, $2.50. Single room, one double bed, with private bath, one person, $2.00; two persons, $3.00. Double room, two double beds, two persons, without bath, $3.00; with bath, $4.00.

HOUSE OF DELEGATES

First Meeting, Tuesday, April 29, 2:00 p. m., Hall No. 2, Pink Room, Gunter Hotel.

1. Call to order.
2. Roll call and announcement of result.
3. Reading of minutes of previous meeting.
4. Appointment of Reference Committees:
   - (1) Reference Committee on Credentials.
   - (2) Reference Committee on Reports of Officers and Committees.
   - (3) Reference Committee on Resolutions and Memorials.
   - (4) Reference Committee on Finance.
   - (5) Reference Committee on Amendments to Constitution and By-Laws.
   - (6) Reference Committee on Scientific Work.
5. Report of Secretary.
6. Report of Treasurer.
7. Report of Board of Trustees.
8. Report of Board of Councilors.
9. Report of Council on Legislation and Public Instruction.
10. Report of Council on Medical Defense.
11. Report of Standing Committees:
    - Committee on Scientific Work.
    - Committee on Collection and Preservation of Records.
    - Committee on Memorial Exercises.
    - Committee on Transportation.
    - Committee on Arrangements for the Annual Session.
12. Report of Special Committees:
    - Committee on Publicity.
    - Committee on Scientific Exhibits.
    - Committee on Medical Education.
    - Committee on Hospital Standardization.
    - Committee on Compensation and Health Insurance.
    - Committee on Cancer.
    - Committee on Health Problems in Education.
    - Committee on Revision of Constitution and By-Laws.
13. Report of Special Delegates:
    - Texas Member of the National Legislative Council.
    - Texas Representative of the National Council on Medical Education.
    - Delegate to the Association of American Medical Colleges.
    - Delegate to the Texas Dental Society.
    - Delegate to the Texas Pharmaceutical Association.
    - Delegate to the Arkansas Medical Society.
    - Delegate to the Colorado State Medical Society.
    - Delegate to the Louisiana State Medical Society.
    - Delegate to the New Mexico State Medical Association.
    - Delegate to the Oklahoma State Medical Association.
    - Delegate to the Texas Association of Sanitarians.
14. Presentation of Fraternal Delegates.
15. Report of Special Committees of the House.
16. Reading of Communications.
17. Reading of Memorials and Resolutions.
18. Unfinished Business.
19. New Business.
20. Report of Reference Committees.
21. Election of Officers (morning of last day):
    - President-Elect.
    - Three Vice-Presidents.
    - One Trustee.
    - Five Councilors.
    - Two Delegates to A. M. A.
    - Two Alternate Delegates to A. M. A.
    - Member Council on Medical Defense.
    - Three Members Council on Legislation and Public Instruction.
22. Selection of Time and Place of Next Annual Session.
23. Adjournment to General Session, 3:30 p. m., Hall No. 1, Travis Park Methodist Church.

RULES GOVERNING SCIENTIFIC PAPERS

Chapter X, By-Laws of the State Medical Association of Texas, states:

Sec. 3. The order of sections, papers and discussions shall be followed as set forth in the Official Program issued from the office of the State Secretary, unless otherwise ordered by a General Meeting.

Sec. 4. All addresses and papers coming before the Scientific Sections shall be presented in typewritten manuscript. All papers so presented by members of the Association must first have been read before the county societies of which the authors are members, and the secretaries of such societies shall certify to the Section Secretary that such papers have been read in toto.

Sec. 5. No paper or address coming before the Scientific Section shall occupy more than twenty minutes in delivery, and discussions shall be limited to five minutes each.

Sec. 6. All papers read before the Scientific Section shall be the property of the Association, and they shall be deposited with the secretary of the section before which they are read. No member shall present a paper before more than one section at any Annual Session. Papers previously published as original in other medical publications, shall not be eligible to publication in THE TEXAS STATE JOURNAL OF MEDICINE, except on direction of the Board of Trustees.

It is obvious that no Section Chairman is empowered to entertain a motion to extend an author's time, and set aside the By-Laws, when such motion would infringe upon the rights and privileges of other authors.

First Day, Tuesday, April 29th

GENERAL SESSION—OPENING EXERCISES

10:30 a. m.,

Hall No. 3, Ball Room, Gunter Hotel.

Call to Order and Announcements, Chairman Arrangement Committee.....Dr. W. H. Hargis
Invocation.....Rev. R. S. Pierce
Music.
Address of Welcome on Behalf of San Antonio,.....Mayor Jno. W. Tobin
Address of Welcome on Behalf of Bexar County Medical Society.....Dr. S. P. Cunningham
Address.....Hon. O. B. Black, San Antonio
Response and President's Address.....Dr. A. C. Scott
Music.
Benediction.....Rev. P. B. Hill

SECTION ON MEDICINE AND DISEASES OF CHILDREN

1:00 to 5:00 p. m., Hall No. 3, Ball Room, Gunter Hotel

DR. JOE E. DILDY, Chairman.....Brownwood
DR. JAMES H. AGNEW, Secretary.....Houston

1. *Chairman's Address, "Opportunities of the Family Doctor."*
2. *Multiple Sclerosis.*
   Dr. C. W. Stevenson.....Wichita Falls
   Discussion opened by Drs. R. B. McBride, Dallas, and E. W. Applebe, Houston.
3. *Tuberculoma of the Spinal Cord.*
   Drs. T. H. Harris and Gibbs Milliken,.....Galveston
   Discussion opened by Drs. J. J. Terrill, Dallas, and E. W. Applebe, Houston.
4. *Cerebral Arteriosclerosis.*
   Dr. Charles T. Stone.....Galveston
   Discussion opened by Drs. A. E. Greer, Houston, and K. H. Beall, Fort Worth.
5. *An Experiment in Postgraduate Work at Home.*
   Dr. W. W. Waite.....El Paso
   Discussion opened by Dr. Henry Hartman, Galveston.
6. *Dilatable Aorta.*
   Dr. J. S. Lankford.....San Antonio
   Discussion opened by Drs. M. L. Graves, Galveston, and Lee Rice, San Antonio.
7. *Multiple Serositis: Outlining a Valuable Diagnostic Procedure.*
   Dr. John R. Lehmann.....Dallas
   Discussion opened by Dr. J. M. Frazier, Belton.

(Section continued on Wednesday.)

SECTION ON SURGERY

1:00 to 5:00 p. m., Hall No. 4, Ball Room, St. Anthony Hotel

DR. M. P. MCELHANNON, Chairman.....Belton
DR. H. L. D. KIRKHAM, Secretary.....Houston

1. *Chairman's Address.*
2. *Nephrectomy.*
   Dr. G. T. Hall.....Big Spring
   Discussion opened by Dr. J. H. Turner, Houston.
3. *The Surgical Treatment of Persistent Headaches Due to Unresolved Cerebral Contusions.*
   Dr. W. L. Crosthwaite.....Waco
   Discussion opened by Drs. C. S. Venable, San Antonio, and C. M. Aves, Houston.
4. *The Difficulties of Tumor Diagnosis (Lantern Slides).*
   Dr. Kenneth M. Lynch.....Dallas
   Discussion opened by Dr. V. H. Keiller, Galveston.
5. *The Early Diagnosis of Tumors of the Brain.*
   Dr. E. R. Carpenter.....Dallas
   Discussion opened by Dr. Hugh Crouse, El Paso.
6. *Renal Hematuria.*
   Dr. J. C. Alexander.....Houston
   Discussion opened by Dr. E. A. Grimland, San Antonio.

(Section continued on Wednesday.)

SECTION ON STATE MEDICINE AND PUBLIC HYGIENE

1:00 to 5:00 p. m., Hall No. 6, Red Room, St. Anthony Hotel

DR. A. L. LINCECUM, Chairman.....San Antonio
DR. H. L. WILDER, Secretary.....Clarendon

1. *Chairman's Address: "The Present Status of the Laws Governing Public Health in Texas, with Suggestions for their Improvement."*
2. *Co-ordination of Health Work.*
   Dr. Malone Duggan, State Health Officer,.....Austin

   The State Board of Health, as a whole, should be regarded as a unit and each department as a part of the unit; no department being complete within itself, but functioning only in some specific part of the whole. Therefore, in order that there may be satisfactory results, each department must act in perfect co-ordination with every other department.

   The State Health Officer is a general practitioner and his department chiefs are specialists in their particular line, who are called in as consultants, when their services are demanded. On their advice and his judgment, the situation is sized up, and the remedy suitable to each case is prescribed. In order to accomplish this result satisfactorily, each department must be brought in touch with every other department, to the extent that it knows the common aims sought for. For further effectiveness, it is necessary to have a definite policy outlined and kept up consecutively. At the same time, it should be flexible enough to make changes when new conditions arise, and in conformity with well established scientific data.

   Discussion opened by Dr. Lane B. Cook, Dallas.
3. *Importance of Reporting Communicable Diseases.*
   Dr. Robt. A. Tate.....Austin

   The State Board of Health must know where its service is needed if it is to functionate effectively. This is impossible unless communicable diseases are properly reported to the booking department, which is the bureau of communicable diseases.

   Discussion opened by Dr. C. E. Durham, Austin.
4. *Venereal Disease Control.*
   Dr. C. E. Durham.....Austin

   Why venereal diseases should be controlled, and whom these diseases affect. The basis of prevention is sex education by means of literature, and by having some qualified person from this bureau to go to the schools, colleges, universities and homes, and there consult with the womanhood of the land. Proper analysis of sex instinct and all that goes with sex education, will help to better our social attitude.

   The needs of the bureau are discussed, and recommendations are made. Appeal is made to the different physicians to help in making such statistics valuable to our great State.

   Discussion opened by Dr. W. H. Beazley, Honey Island.
5. *State Laws Pertaining to Municipal Sanitation.*
   V. M. Ehlers, C. E.....Austin

   The Stream Pollution Act should be amended, the public water supply adequately supervised, swimming pools regulated, the Railway Sanitary Code brought up to date, and a ban placed on the common cup and

towel, as well as the need for trained sanitarians emphasized.

Discussion opened by Dr. A. H. Flickwir, Houston, and Mr. R. E. Tarbett, El Paso.

6. *Some of the Obstacles Retarding the Progress of Maternity and Infancy Work in Texas.*

Dr. H. Garst.....Austin

A brief summary of the needs of maternity and infancy work in Texas, but especially relating to obstacles retarding the progress of the bureau's work, and suggesting remedies. Statistics not being available for Texas, the need of maternity and infancy work in the State is shown by figures taken from the U. S. Registration Area. The personnel of the bureau consists of a director, an office force of 7, and 32 nurses. We are handicapped by the absence of fairly complete vital statistics, by inadequate midwife control, by defects in maternity home and farm laws, and by a comparatively small appropriation. Laws should be enacted to assist in overcoming these handicaps, or existing laws revised and enforced.

Discussion opened by Dr. T. J. McCamant, El Paso.

7. *The Needs of the State Board of Health.*

Dr. W. H. Beazley.....Honey Island

A change in the statutes is proposed whereby the State Health Officer may be selected by a commission of six doctors, and not by the Governor. The State Health Officer should be responsible to the commission, and should be given more authority, a better salary, and more money with which to operate the Department. The Legislature is urged to provide adequately for the Health Department, that it may function without the assistance of the Federal Government and Rockefeller. Revision of the Sanitary Code, and employment of only efficient help is also urged.

Discussion opened by Dr. J. H. Florence, former State Health Officer.

8. *The Relation of the City Health Department to the State Health Department, with Suggestions of Needed Changes in the Law.*

Dr. A. H. Flickwir.....Houston

In this paper an attempt will be made to state some of the methods by which the State Department of Health can be of greater assistance to the City Health Department, and recommendations of needed changes in the laws pertaining to public health in general.

The different changes in the quarantining of communicable diseases and methods of reporting same; the importance of vital statistics; the importance of rural sanitation and its relation to the City Health Department; the protection of food products such as vegetables, etc., which are brought into the city for sale; the protection of summer vacationists and motor tourists from the city, who spend week ends in the country; infant welfare and maternity laws; regulation of midwives; venereal disease control; prevention of rabies; mosquito control problems; better care for the insane and drug addicts, and other such changes, are discussed in this paper.

Discussion opened by Dr. W. A. King, San Antonio.

(Section continued on Wednesday.)

MEMORIAL EXERCISES

8:00 to 9:00 p. m., Hall No. 1,

Travis Park Methodist Church, Corner Travis and Navarro Streets

Organ Prelude, "Pilgrim's Chorus" (Wagner).
Mrs. Harry Leap.....San Antonio

Invocation.
Rev. Arthur J. Moore.....San Antonio

Quartette, "After Toiling Cometh Rest" (Dressler).
O. H. Stapleton, Ray Keck, L. B. Stoner and W. H. Park.....San Antonio

Reading Names of Deceased.
Chairman Committee on Memorial Exercises.

Memorial Address
Dr. H. W. Cummings.....Hearne

Vocal Solo, "Some Sweet Day" (Oley Speaks).
Rubie Perryman Hardin.....San Antonio

Violin Solo, "Elegie" (Massenet).
Mrs. T. M. Wheat.....San Antonio

Benediction.
Rev. I. E. Gates.....San Antonio

Postlude, "March in G" (Mendelssohn).
Mrs. Harry Leap.....San Antonio

Second Day, Wednesday, April 30th

SECTION ON MEDICINE AND DISEASES OF CHILDREN—Continued

9:00 a. m. to 3:30 p. m., Hall No. 3, Ball Room, Gunter Hotel

8. *Mysticism and Fatalism in the Diagnosis and Treatment of Heart Disease.*

Dr. K. H. Beall.....Fort Worth

Discussion opened by Drs. N. D. Buie, Marlin, and G. L. Carlisle, Dallas.

9. *Nephritis and Hypertension: Classification and Treatment.*

Dr. C. M. Grigsby.....Dallas

Discussion opened by Drs. J. W. Torbett, Marlin, and O. F. Gober, Temple.

10. *Malignant Diseases of the Thorax and Abdomen.*

Dr. Stewart R. Roberts.....Atlanta, Georgia

Discussion opened by Drs. M. L. Graves, Galveston, and R. L. Baird, Dallas.

11. *Examination of the Gall-Bladder: Demonstration of Graham and Cole's Method (Lantern Slides).*

Dr. Lee Rice, San Antonio, and Dr. W. H. Cade.....San Antonio

Discussion opened by Dr. James H. Agnew, Houston.

12. *Liver Function Tests.*

Drs. M. D. Levy and Elizabeth Morford, ...Houston

Discussion opened by Drs. J. E. Robinson, Temple, and K. M. Lynch, Dallas.

13. *Chronic Cholecystitis: Its Etiology, Diagnosis and Treatment.*

Dr. Geo. M. Underwood.....Dallas

Discussion opened by Drs. E. V. DePew, San Antonio, and F. D. Garrett, El Paso.

14. *Problems Confronting the Physician in Malnutrition in the Child of School Age.*

Dr. J. F. Perkins.....Dallas

Discussion opened by Dr. Mary C. Harper, San Antonio.

15. *Observations on the Mental Hygiene of Childhood.*

Dr. E. W. Applebe.....Houston

Discussion opened by Dr. M. L. Graves, Galveston.

16. *Observations in the Newly-Born.*

Dr. L. R. DeBuys.....New Orleans

Discussion opened by Dr. M. L. Wilbanks, Greenville.

17. *The Therapeutic Use of Blood in Infancy and Early Childhood, with a Simple Method of Transfusion.*

Dr. H. Leslie Moore.....Dallas

Discussion opened by Dr. F. O. Callaway, Houston.

18. *Intracranial Hemorrhage in the Newly-Born: Report of a Case, with Recovery*

Dr. J. H. Park, Jr.....Houston

Discussion opened by Dr. Ramsay H. Moore, Dallas.

19. *The Relation of the Medical Profession to Shrine Hospitals in Texas.*
Dr. W. B. Carroll.....Dallas
Discussion opened by Dr. R. M. Hargrove, Houston.
(Section continued on Thursday.)

SECTION ON SURGERY—Continued
9:00 a. m. to 3:30 p. m., Hall No. 4, Ball Room, St. Anthony Hotel

7. *Treatment of Fracture of the Neck of the Femur.*
Dr. Ben L. Schoolfield.....Dallas
Discussion opened by Dr. James R. Bost, Houston.

8. *The Bone Lesions of Smallpox (Lantern Slides).*
Dr. W. L. Brown.....El Paso
Discussion opened by Dr. John T. Moore, Houston.

9. *Reconstruction of the Internal Ligament of the Knee.*
Dr. James R. Bost.....Houston
Discussion opened by Dr. Charles F. Clayton, Fort Worth.

10. *Renal Lithiasis.*
Dr. E. S. Judd.....Rochester, Minnesota
Discussion opened by Dr. F. S. Schoonover, Fort Worth.

11. *Intestinal Anastomosis, with Rapid Suture Clamp: Preliminary Reports.*
Dr. A. C. Scott, Jr. .....Temple
Discussion opened by Dr. Paul Gunby, Sherman.

12. *Ligature of the Common Iliac Artery.*
Dr. James E. Thompson.....Galveston
Discussion opened by Dr. W. D. Haggard, Nashville, Tennessee.

13. *Treatment of Cancer of the Lip. (Lantern slide presentation of cases before and after treatment)*
Dr. O. L. Norsworthy.....Houston
Discussion opened by Dr. A. C. Scott, Sr., Temple.

14. *Report of a Group of Surgical Goitre Cases.*
Dr. G. D. Mahon.....Dallas
Discussion opened by Dr. Frank Barnes, Houston.

15. *The Prostate in Health and Disease*
Dr. A. A. Brown.....San Antonio
Discussion opened by Dr. H. McC. Johnson, San Antonio.

16. *Polycystic Disease of the Kidney.*
Dr. R. E. Van Duzen.....Dallas
Discussion opened by Dr. John T. Moore, Houston.
(Section continued on Thursday.)

SECTION ON STATE MEDICINE AND PUBLIC HYGIENE—Continued
9:00 a. m. to 3:30 p. m., Hall No. 6, Red Room, St. Anthony Hotel

9. *Full Time County Health Officers.*
Dr. Alex Harrison.....Austin

10. *Food, Drug and Narcotic Laws.*
Dr. W. W. Battle.....Austin
The Texas Food and Drug Law is an act to prohibit and prevent adulteration, fraud, deception, and misbranding in the manufacture and sale of articles of food and drugs. It provides for the appointment of a Dairy and Food Commissioner, and defines his powers and duties; also provides for the appointment of inspectors, chemists and other assistants. Under the bill passed by the 37th Legislature, the powers and duties of the Dairy and Food Commissioner were conferred on the State Health Officer, or his duly authorized agent. It is the purpose of this discussion to direct the attention of the members of the State Medical Association to the Health Protection phase of food and drug inspection, which has been emphasized during the past three years. The Texas Anti-Narcotic Law is an act to regulate the sale of cocaine and other drugs. No appropriations have been made by the Legislature with which to provide the necessary personnel for the enforcement of this act.
Discussion opened by Dr. C. F. Proper, El Paso.

11. *Compulsory Vaccination.*
Dr. J. W. Tappan.....El Paso
Vaccination in infancy, with revaccination at the age of 6 or 7, and again at puberty, constitutes an almost complete protection against smallpox. Germany, the classical example. Annual death rate before and after the introduction of vaccination. On account of laxity in revaccination, the mortality after the age of ten is now increasing. In recent years there has been a marked increase in the prevalence of smallpox in the United States. As a rule it has been of milder type though outbreaks of the disease which have occurred from time to time in widely separated localities show that it may revert to its former malignancy. A study of the incidence of smallpox in the United States and of the laws governing vaccination, show that the disease is more or less dependent upon the vote of the people.
Discussion opened by Dr. Malone Duggan, Austin.

12. *Mosquito Control Along the Texas-Mexican Border, with Special Reference to Control of Aedes Aegypti.*
R. E. Tarbett.....El Paso
The spread of yellow fever in the east coast section of Mexico in the years 1921 and 1922 threatened the United States through the illegal entry of aliens, both Mexicans and Europeans, coming directly from the infected areas. In order to prevent, as far as possible, the introduction of the disease, and to be in a position to quickly and efficiently combat the same provided it gained entry, co-operative work was started in 1923 in the cities and villages immediately along the border, and such other places as received more or less directly and immediately aliens who had crossed illegally. The work was confined to the Aedes Aegypti mosquito, more commonly known as the Stegomyia. The work during the summer of 1922 was sufficiently effective to have prevented the spread of yellow fever had it crossed the border. The paper covers the method employed and the results obtained.
Discussion opened by Mr. V. M. Ehlers, Austin, and Dr. Nat. K. King, Laredo.
Mr. A. C. Mitchell of Austin, cartoonist, will make drawings before the audience, showing the State Board of Health's method of carrying on Mosquito Control work.

13. *Municipal Water Supply.*
John B. Hawley.....Fort Worth
Classification: Domestic, Industrial, Public, Agricultural, Irrigation, and Water Power. Necessity for abundant supply, with description of elements. In general there are two sources of supply—underground and surface—both subject to contamination. Examples of pollution of artesian wells with indicated remedy. Available wells must be used, even if artificially purified, as small communities must have water, as well as large cities. Surface supplies are obviously subject to more pollution than underground supplies, especially in thickly settled country. Surface waters can be clarified and purified by filtration plants of modern design. Texas has several plants employing sedimentation alone but these are undependable, for several reasons. A real filtration plant includes coagulation-sedimentation, straining through sand-beds, and at times, chlorination. A bacterial count of less than 20, with B. coli always negative can be obtained. Such a purification plant (together with general sanitary improvement) has brought down the typhoid rate from about 30 to 3 per 100,000 during the past 10 years, and dysentery somewhat similarly.
Discussion opened by Dr. I. C. Chase, Fort Worth.

14. *Tuberculosis.*
Dr. Frank C. Gregg.....Austin

15. *School Follicles.*
Dr. O. H. Judkins.....San Antonio
This paper deals with the condition variously termed "Folliculosis," "Follicular Catarrh," "Follicular Ophthalmia," etc., and which was studied by the author in many hundreds of cases in St. Luke's Clinic. This paper is presented before the section on State Medicine and Public Hygiene, because it is of vital import-

ance to all public health officials, who are frequently called upon to exclude these children from the public schools.

Discussion opened by Dr. E. M. Sikes, Austin.

16. *Selling Public Health to the Children of Texas.*
Mr. A. C. Mitchell.....Austin

17. *Health Conservation After Forty.*
Dr. W. M. Brumby.....Houston

The span of life has been remarkably lengthened since 1880, but old age has not been deferred. The scientific prevention and control of acute diseases, and diseases of infancy and childhood, are responsible for this improvement. Fifty-one per cent of the deaths occurring after 40 are due to degenerative diseases, and are preventable to a degree. Eighty per cent of the mortality from these organic diseases is postponable anywhere from a few days to many years, by diet and habits rather than medicine. Diseases of this type after 40 years of age are on the increase; diseases of 60 to 70 years of age are creeping down into the fifties and forties. The majority of these diseases develop so insidiously and progress so slowly that they become well established before attracting the attention of the individual sufficiently to warrant his seeking medical advice. Sedentary habits and mental strain after 40, especially if accompanied by corpulency, break down health and rob man of his virility long before his time. When a useful, mature citizen dies 15 to 20 years before his time, it is more than a family misfortune, it is a civic loss. Cardio-vascular-renal disease has doubled in this same 40-year period. Heart disease leads in actual number of deaths, although gastro-intestinal disturbances head the lists of morbidity in persons over 40. Fat is fatal after 40; lightweight old people live longest. The remedy is periodic health examination, begun while the individual is in his prime, and "taking stock" annually, in order that we may watch the wear of life. Early recognition is essential if prevention or cure is expected. This work, done by competent, well equipped physicians, would be a protection to the public against quacks and inexpert advice, and would awaken the public to the advantages of scientific medical supervision.

Discussion opened by Dr. J. H. Lankford, San Antonio.

18. *Some Phases of the State's Care of Her Insane Wards.*
Dr. H. H. Harrington, State Board of Control.....Austin

A resident of the State should be allowed to present himself for study at any of the State Hospitals at any time, upon the approval of the Superintendent of the institution, if the applicant believes that his mental condition is affected. No commitment or a formal hearing should be required. Training schools for nurses should be conducted at all the hospitals. At least one of the assistant physicians should have had special training in psychiatry. Means should be provided by the State by which patients may work on farms and in departments of occupational therapathy. More individual attention, involving personal or group intertainment and diversion, with a study of individual idiosyncrasies and capabilities in particular directions, should be given to patients. Regulation and control of diet should be carefully planned upon scientific principles. There should be a further development of the present custom of having the more nearly sane patients care for others that are not so well. More stress should be laid upon the education of parents and relatives in regard to the importance of the first abnormal indications in children or near relatives. School teachers should give more careful study to the mental status and nervous conditions of their pupils. We should stop speaking in suppressed tones concerning those afflicted with mental diseases. As a rule, a mental disease reflects less culpability on the part of the parent or the child than a physical disease, because the latter, under correct living, may be largely avoided, while the former is commonly beyond control.

Discussion opened by Drs. Chas. W. Castner, Terrell, and F. S. White, Wichita Falls.

19. *Alcoholic and Drug Addicts: The Legal Phases of Their Care.*
Dr. John S. Turner.....Dallas

At one time these poisons were more in use by the "Underworld," but now by all walks of life. The reason for the increased demand, is found in the abnormal and unnatural lives we are living. Formerly the Government regarded each person as his own free moral agent: not so, now. The public conscience is becoming quickened, since attention has been called to the fact that there is no law or place to care for these unfortunates. There should be legal provision made for the apprehension, care and treatment of these cases. The medical profession stands ready to lend its assistance.

20. *The Proper Care and Treatment of the Insane.*
Dr. J. A. McIntosh.....San Antonio

Some abstracts from the early history of insanity, showing how the insane were considered as outcasts and persons possessed by evil spirits, and were not treated as sick people. The development of psychiatry throughout the ages, showing how some of the old superstitions and peculiar ideas still remain. Some of our methods of handling the insane are as inconsiderate of their diseased condition, as in the dark ages.

Voluntary commitment to state hospitals for the insane; psychopathic hospitals for the acutely insane, and hospitals for the insane epileptics, and commitment of drug and alcoholic habitues, are recommended.

Discussion opened by Drs. Wilmer L. Allison, Fort Worth, and J. J. Terrill, Dallas.

(Section adjourned.)

SECTION ON OPHTHALMOLOGY, OTOLOGY, RHINOLOGY AND LARYNGOLOGY

9:00 a. m. to 3:30 p. m., Hall No. 5, Army Room, Gunter Hotel

DR. W. D. JONES, Chairman.....Dallas
DR. C. P. SCHENCK, Secretary.....Fort Worth

1. *Chairman's Address.*

2. *Personal Experience with Paranasal Sinus Cases*
Dr. E. H. Cary.....Dallas
Discussion opened by Dr. W. O. Ott, Fort Worth.

3. *Neuro-Retinitis, with Case Report.*
Dr. W. Mood Knowles.....Dallas
Discussion opened by Dr. Henry C. Haden, Houston.

4. *Glaucoma: Presentation of Cases.*
Dr. J. Guy Jones.....Dallas
Discussion opened by Dr. Henry Hilgartner, Austin.

5. *Direct Laryngoscopy by Means of the Directoscop of Haslinger.*
Dr. Sidney Israel.....Houston
Discussion opened by Dr. Geo. S. McReynolds, Temple.

6. *Keratoconus: Presentation of Cases.*
Dr. Jno. W. Ellis.....San Antonio
Discussion opened by Dr. Walter R. Washburn, Cleburne.

7. *Report of Foreign Bodies in Lung and Oesophagus with Special Reference to Points in Diagnosis.*
Dr. Geo. S. McReynolds.....Temple
Discussion opened by Dr. E. M. Sykes, San Antonio, and Dr. C. P. Schenck, Fort Worth.

8. *The X-Ray in the Treatment of Deafness: A Preliminary Report.*
Dr. H. L. Warwick.....Fort Worth
Discussion opened by Dr. Frank D. Boyd, Fort Worth.

9. *Alternating Squint.*
Drs. Goar and Ralston.....Houston
Discussion opened by Dr. John O. McReynolds, Dallas.

10. *Anatomical Illustrations of the Crystalline Lens System.*
Dr. John O. McReynolds.....Dallas
Discussion opened by Dr. Seth M. Morris, Galveston.

(Section continued on Thursday.)

SECTION ON GYNECOLOGY AND OBSTETRICS

1:00 to 3:30 p. m., Hall No. 7,

Tapestry Room, St. Anthony Hotel.

DR. EVERETT F. JONES, Chairman.....Wichita Falls
DR. C. C. CADE, Secretary.....San Antonio

1. *Chairman's Address, "A Forward View of Surgical Gynecology."*
2. *Abdominal Pregnancy at or Near Term, with Report of Cases.*
   Dr. R. M. Hargrove.....Houston
3. *Raising the Standard of Obstetrics in Texas.*
   Dr. Minnie C. O'Brien.....San Antonio
4. *Modern Prenatal Management.*
   Dr. James W. Powers.....Wichita Falls
5. *Puerperal Infection.*
   Dr. C. Jeff Miller.....New Orleans
6. *Etiology and Remedy of High Fetal Mortality in Obstetrics.*
   Dr. G. V. Morton.....Fort Worth

(Section continued on Thursday.)

GENERAL SESSION

3:30 to 5:00 p. m., Hall No. 1,

Travis Park Methodist Church.

Address, "The Practice of Medicine a Lay Problem"
Honorable Wayne Davis.....San Antonio

Address, "The Practice of Medicine a Matter of Mutual Concern to the Laity and the Medical Profession."
Dr. C. M. Rosser.....Dallas

Address, "The Public Health Importance of Dentistry."
Dr. W. M. Bourn.....San Antonio

Address, "Shall We Have Competent Pharmacy?"
Mr. W. H. Whisenant, Member Texas State Board of Pharmacy.....San Antonio

Address, "How Shall the Sick be Served?"
Dr. W. D. Haggard.....Nashville, Tenn.

Address, "The Service of Medicine."
Dr. Stewart R. Roberts.....Atlanta, Ga.

Third Day, Thursday, May 1st

SECTION ON MEDICINE AND DISEASES OF CHILDREN—Continued

9:00 a. m. to 3:30 p. m., Hall No. 3,
Ball Room, Gunter Hotel

20. *The Psychic Factor in the Treatment of Pulmonary Tuberculosis.*
    Dr. W. C. Farmer.....San Antonio
    Discussion opened by Drs. J. W. Laws, El Paso, and J. B. McKnight, Sanatorium.
21. *Lung Abscess: Report of Cases (Lantern Slides).*
    Dr. A. E. Greer.....Houston
    Discussion opeend by Dr. D. W. Carter, Jr., Dallas.
22. *Hay Fever.*
    Drs. Roy L. Keller and J. S. Tomkies.....Dallas
    Discussion opened by Dr. I. S. Kahn, San Antonio.
23. *Some Errors in Diagnosis, Illustrative Cases.*
    Dr. R. L. Baird.....Dallas
    Discussion opened by Dr. M. D. Levy, Houston.
24. *Present Day Management of Diabetes Mellitus.*
    Dr. D. W. Carter, Jr.....Dallas
    Discussion opened by Drs. V. M. Longmire, Temple, and C. T. Stone, Galveston.
25. *Indigestion and Right-Sided Pain from a Roentgenological Standpoint.*
    Dr. I. Warner Jenkins.....Waco
    Discussion opened by Drs. K. H. Aynesworth, Waco, and A. B. Small, Dallas.
26. *The Pathology and Symptomatology of Hodgkin's Disease.*
    Drs. Henry Hartman and W. H. Hill, ...Galveston.
    Discussion opened by Drs. C. T. Stone, Galveston, and Thad Shaw, San Antonio.
27. *Observations of the Cutaneous Manifestations of Leukemia, Hodgkin's Disease and Lymphosarcoma.*
    Drs. I. L. McGlasson and C. F. Lehman, ...San Antonio
    Discussion opened by Drs. Wm. Allen Pusey, Chicago, and E. D. Crutchfield, Galveston.
28. *Treatment of Arsphenamine Dermatitis with Sodium Thiosulphate.*
    Dr. J. C. Michael.....Houston
    Discussion opened by Drs. J. B. Shelmire, Dallas, and Ned Snyder, Brownwood.
29. *Herpes Zoster, Associated with Heart Disease (Lantern Slides).*
    Dr. W. E. Nesbit.....San Antonio
    Discussion opened by Dr. K. H. Beall, Fort Worth.
30. *Ischochymia.*
    Dr. S. T. Lowry.....San Antonio
    Discussion opened by Drs. Wm. Cade, San Antonio, and H. G. Walcott, Dallas.
31. *The Bacteriophage in Infectious Diseases.*
    Dr. H. M. Winans.....Dallas
    Discussion opened by Dr. W. A. Chernosky, Temple, and D. W. Carter, Jr., Dallas.

(Section Adjourned.)

SECTION ON SURGERY—Continued

9:00 a. m. to 3:30 p. m., Hall No. 4,
Ball Room, St. Anthony Hotel

17. *Causalgia: Diagnosis, Operative Treatment and Report of Cases.*
    Dr. J. S. Davis.....Dallas
    Discussion opened by Dr. J. S. Calhoun, Dallas.
18. *Surgical Treatment of Exophthalmic Goiter.*
    Dr. E. O. Rushing.....Dallas
    Discussion opened by Dr. Everett Jones, Wichita Falls.
19. *The Chronic Peptic Ulcer-Bearing Type (Lantern Slides).*
    Dr. W. B. Russ.....San Antonio
    Discussion opened by Dr. H. M. Doolittle, Dallas.
20. *Some of the Surgical Problems of the Biliary Passages.*
    Dr. W. D. Haggard.....Nashville, Tennessee
    Discussion opened by Dr. J. E. Thompson, Galveston.
21. *Discussion of Fenestra Methods of Local Anesthesia in Upper Abdominal Work.*
    Dr. C. C. Green.....Houston
    Discussion opened by Dr. A. O. Singleton, Galveston.
22. *Tetany Following Abdominal Operation: Case Reports.*
    Dr. Homer T. Wilson.....San Antonio
    Discussion opened by——

23. *Intestinal Obstruction.*
Dr. C. W. Flynn.....Dallas
Discussion opened by Drs. Jas. E. Thompson, Galveston, and Homer T. Wilson, San Antonio.

24. *Imperforate Anus.*
Dr. Violet H. Keiller.....Galveston
Discussion opened by Dr. R. M. Hargrove, Houston.

25. *Cancer of the Rectum and Recto-Sigmoid.*
Dr. Curtice Rosser.....Dallas
Discussion opened by Dr. C. L. Martin, Dallas.

26. *A Plea for Skin Grafting.*
Dr. C. S. Woodward.....Fort Worth
Discussion opened by Dr. Arthur R. Thomasson, Dallas.

27. *The Systemic Effects of Oral Infection.*
Dr. S. B. Riggs.....San Antonio

(Section Adjourned.)

SECTION ON OPHTHALMOLOGY, OTOLOGY, RHINOLOGY AND LARYNGOLOGY

—Continued

9:00 a. m. to 3:30 p. m., Hall No. 5, Army Room, Gunter Hotel.

11. *Adenoids.*
Dr. Edward F. Wright.....Greenville
Discussion opened by Dr. L. H. Lanier, Texarkana.

12. *Intralaryngeal Growths: Report of Cases.*
Dr. D. T. Atkinson.....San Antonio
Discussion opened by Dr. J. M. Woodson, Temple.

13. *The Modern Status of Sinus Surgery.*
Dr. Louis Daily.....Houston
Discussion opened by Dr. Samuel N. Key, Austin.

14. *Intracranial Complications Following Ear and Nose Infections.*
Dr. W. O. Ott.....Fort Worth
Discussion opened by Dr. Morris H. Boerner, Austin.

15. *Some Recent Studies in Accessory Sinusitis.*
Dr. R. H. Gough.....Fort Worth
Discussion opened by Dr. Edward C. Brannon, Waco.

16. *Acute Middle Ear Infections in Infants and Children.*
Dr. E. M. Sykes.....San Antonio
Discussion opened by Dr. Horace T. Aynesworth, Waco.

17. *The Adequate Treatment of Hereditary Lues.*
Dr. Frank S. Schoonover.....Fort Worth
Discussion opened by Dr. Stephen A. Schuster, El Paso.

(Section Adjourned.)

SECTION ON GYNECOLOGY AND OBSTETRICS

—Continued

9:00 a. m. to 3:30 p. m., Hall No. 7, Tapestry Room, St. Anthony Hotel

7. *Ablatio Placenta.*
Drs. George H. Lee and H. Reid Robinson, Galveston

8. *The Value of X-Ray in Obstetrics.*
Drs. J. W. Bourland and Davis Spangler, Dallas

9. *Cranial Injuries to the New Born.*
Dr. Wilmer L. Allison.....Fort Worth

10. *The Practical Application of Pelvimetry.*
Dr. Robert A. Johnston.....Houston

11. *The Anatomy of the Female Pelvic Floor Relative to Lacerations and Repairs.*
Dr. W. W. Looney.....Dallas

12. *Repair of the Vaginal Outlet.*
Dr. Calvin Richards Hannah.....Dallas

13. *Sterility, Its Causes and Treatment.*
Raymond M. Metcalfe, Lt. Col. M. C., U. S. A.....Fort Sam Houston, Texas

14. *X-Ray Treatment of Cancer of the Cervix.*
Dr. R. T. Wilson.....Temple

15. *Retroversion.*
Dr. Willard R. Cooke.....Galveston

16. *Uterine Malignancies Treated by Cautery, Radium and X-Ray.*
Dr. M. W. Sherwood.....Temple

17. *Present Day Idea of Cancer of the Cervix.*
Dr. Chas. H. Harris.....Fort Worth

(Section Adjourned.)

GENERAL SESSION

3:30 to 5:00 p. m., Hall No. 1, Travis Park Methodist Church.

Address, "What Texas Has Not Done for Her Insane."
(From the Section on State Medicine and Public Hygiene.)
Dr. Wilmer L. Allison.....Fort Worth

Address, "The Proper Care and Treatment of the Insane."
(From the Section on State Medicine and Public Hygiene.)
Dr. J. A. McIntosh.....San Antonio

Address, "Syphilis as a Sanitary Problem."
Dr. W. A. Pusey, President-Elect, American Medical Association.....Chicago, Ill.

Introduction of Newly Elected Officers.

PROGRAM TEXAS RAILWAY SURGICAL AND HYGIENICAL ASSOCIATION

Hall No. 7, Tapestry Room, St. Anthony Hotel.
April 28, 10:00 a. m.

DR. JOE GILBERT, President.....Austin
DR. W. A. POLLARD, Vice-President.....Kaufman
DR. N. A. POTH, Secretary.....Seguin

1. *The Psychology of Railway Injuries.*
Dr. F. U. Painter.....Corpus Christi

2. *Examination Suggestions.*
Dr. Ross Trigg.....Fort Worth

3. *Systemized First Aid.*
Dr. R. W. Knox.....Houston

4. *Venereal Diseases and their Effects on Evolution.*
Dr. F. R. Karbach.....Marion

5. *Foreign Bodies of the Cornea.*
Dr. S. J. Clark.....Austin

6. *The Lesser Degrees of Myocardial Impairments, Their Recognition and Management.*
Dr. C. D. Steinwinder.....San Antonio

7. *Simple Technique Used in Skin Grafting (Lantern Slides).*
Dr. A. R. Thomasson.....Dallas

8. *Some Interesting Kidney Conditions.*
Dr. R. L. Travis.....Marshall

(Adjourned.)

PROGRAM THE STATE PATHOLOGICAL SOCIETY OF TEXAS

Hall No. 2, Pink Room, Gunter Hotel

April 28, 9:30 a. m. to 6:00 p. m.

DR. W. F. THOMSON President.....Beaumont
DR. W. H. MOURSUND, Vice-President.....Dallas
DR. R. C. CURTIS, Secretary.....Corsicana

1. *Some Fundamental Principles in Tissue Diagnosis.*
   Dr. Geo. T. Caldwell.....Dallas
   Discussion opened by Dr. J. H. Black, Dallas.
2. *Report of Case of Solitary Tubercle of the Brain with Exhibition of Specimen.*
   Dr. B. F. Stout.....San Antonio
   Discussion opened by Dr. Geo. T. Caldwell, Dallas.
3. *Milk Injections in Ophthalmology (Protein Therapy).*
   Dr. Louis Daily.....Houston
   Discussion opened by Dr. J. H. Black, Dallas.
4. *Pollen Sensitization.*
   Dr. J. H. Black.....Dallas
   Discussion opened by Dr. R. C. Curtis, Corsicana.
5. *Complement Fixation Test for Syphilis (A Motion Picture Demonstration of Technique).*
   Dr. C. E. Roderick.....Battle Creek, Mich.
   Discussion opened by Dr. J. H. Black, Dallas.
6. *A Comparative Study of the Results Obtained with the Kahn Test, with Craig's Wassermann Technique.*
   Dr. Janet Caldwell.....Dallas
   Discussion opened by Dr. W. W. Waite, El Paso.
7. *Report of Cases and Results, Using the Fifteen Drop Method in Wassermann Test.*
   Dr. Willis W. Waite.....El Paso
   Discussion opened by Dr. J. E. Robinson, Temple.
8. *Parallelisms in the Practice of Medicine.*
   Dr. Martha A. Wood.....Houston
   Discussion opened by Dr. E. F. Cooke, Houston.
9. *Hospital Pathology.*
   Dr. A. H. Braden.....Houston
   Discussion opened by Dr. C. V. Wells, Waco.
10. *Home Postgraduate Work by Means of Postmortem Examinations, Ways and Means of Obtaining Autopsies.*
    Dr. Willis W. Waite.....El Paso
    Discussion by all present.

(Adjourned.)

PROGRAM TEXAS RADIOLOGICAL SOCIETY

April 28, 10:00 a. m., Hall No. 5,

Army Room, Gunter Hotel.

DR. I. W. JENKINS, President.....Waco
DR. DALTON RICHARDSON, Vice-President.....Austin
DR. TOM BOND, Secretary.....Fort Worth

1. *Electrodesiccation Combined with Radiation Therapy.*
   Dr. R. H. Crockett.....San Antonio
   Discussion opened by Drs. S. C. Barrow, Shreveport, La., and Samuel Jagoda, Fort Worth.
2. *Case Reports of Roentgen Ray Treatment of Exophthalmic Goiter.*
   Dr. S. D. Whitten.....Greenville
   Discussion opened by Drs. B. T. Van Zant, Houston, and W. F. Curran, Waco.
3. *The Relationship of the Radiotherapist and the Surgeon in the Attack Upon the Cancer Problem.*
   Dr. I. L. McGlasson.....San Antonio
   Discussion opened by Drs. J. M. Martin, Dallas, and I. W. Jenkins, Waco.
4. *Radiation and Treatment of Breast Cancer.*
   Dr. J. B. Johnson.....Temple
   Discussion opened by Dr. R. G. Giles, Cleveland, Ohio.
5. *Measurements of X-Rays.*
   Dr. Albert Bachem.....Chicago
   Discussion opened by Dr. R. H. Millwee and Mr. R. P. Kincheloe, Dallas.
6. *Conditions Resembling Pulmonary Tuberculosis.*
   Drs. W. S. Hamilton and I. S. Kahn,
   .....San Antonio
   Discussion opened by Drs. Tom Bond, Fort Worth, and L. W. Kuser, Gainesville.
7. *X-Ray Studies of the Diaphragm.*
   Dr. Chas L. Martin.....Dallas
   Discussion opened by Drs. G. C. Lechinger, Galveston, and R. K. McHenry, Houston.
8. *Mechanical and Physical Agents as Aids to Dermatology.*
   Dr. J. W. Cathcart.....El Paso
   Discussion opened by Drs. E. D. Crutchfield, Galveston, and C. F. Lehman, San Antonio.
9. *Arthropathies from an X-Ray Standpoint.*
   Dr. W. L. Larabee.....El Paso
   Discussion opened by Drs. R. W. Barr, Orange, and S. S. Munger, Marlin.
10. *High Voltage X-Ray Treatment of Uterine Fibroids.*
    Dr. R. G. Giles.....Cleveland, Ohio
11. *Management of X-Ray Laboratory from the Scientific as Well as the Financial Standpoint.*
    Dr. Dalton Richardson.....Austin
    Round Table discussion opened by Dr. J. C. Moulton, Texarkana.

ALUMNI NOTICES.

Attention, Phi Chi! The annual Phi Chi round-up will be held at breakfast time, 7:30 (a. m.), April 30, San Antonio. The place will be announced on the bulletin boards and during the preceding general sessions. Fraternally,

C. F. LEHMAN, San Antonio, Texas.

Baylor Alumni, Attention! Dr. R. G. McCorkle of San Antonio, is arranging for the Baylor banquet. An opportunity will be offered for the registration of Baylor (including the absorbed institutions) alumni, at some suitable place near the Information Bureau or Registration Office, in the St. Anthony Hotel. Registration for the banquet will be appreciated in proportion as it is promptly done. Fraternally,

PENN RIDDLE, Dallas, Texas.

Officers, Alumni Associations, Attention! The undersigned is chairman of the Alumni Banquet Committee for the Annual Session, and is ready to make preliminary arrangements for the reunions, banquets and meetings of all alumni and fraternity organizations, upon request. It may be rather late to attempt to make arrangements for such functions upon arrival in San Antonio. Fraternally,

ROY T. GOODWIN,
Gibbs Bldg., San Antonio, Texas.

MEDICINAL REMEDIES

NEW AND NONOFFICIAL REMEDIES.

Corpus Luteum-Lederle.—The fresh substance from the corpora lutea of the hog or cow, dried and powdered. For a discussion of the actions and uses of ovary preparations, see New and Nonofficial Remedies, 1923, p. 210. Corpus luteum-Lederle is supplied in the form of 2-grain tablets only. Lederle Antitoxin Laboratories, New York.

Corpus Luteum Extract-Lederle.—A sterile solution of those constituents of the corpus luteum which are soluble in water containing sodium chloride 0.85 per cent, sodium citrate 1 per cent and chlorbutanol 0.5 per cent. Each Cc. contains 0.02 Gm. of soluble matter in addition to sodium chloride, sodium citrate and chlorbutanol. For a discussion of the actions and uses of ovary preparations, see New and Nonofficial Remedies, 1923, p. 210. The preparation is marketed in 1 Cc. ampules and in 5 Cc. vials. Lederle Antitoxin Laboratories, New York.

Ovarian Residue-Lederle.—The residue from the fresh ovaries of the hog or cow after the ablation of the corpus luteum, dried and powdered. For a discussion of the actions and uses of ovary preparations, see New and Nonofficial Remedies, 1923, p. 210. Ovarian Residue-Lederle is supplied in the form of 3-grain tablets only. Lederle Antitoxin Laboratories, New York.

Silver Nitrate Solution 1 Per Cent.—Lederle. An aqueous 1 per cent solution of silver nitrate contained in amples composed of beeswax. The preparation is intended for the prophylaxis of ophthalmia neonatorum. For use, a pin hole is made in the ampule and, after suitable preliminary cleansing of the eye two drops are placed in each eye of the newborn. Lederle Antitoxin Laboratories, New York.

Whole Ovary-Lederle.—Whole ovarian glands of the hog or cow, freed from extraneous matter and dried at or below 38 C. For a discussion of the actions and uses of ovary preparations, see New and Nonofficial Remedies, 1923, p. 210. Whole Ovary-Lederle is supplied in the form of 5-grain tablets only. Lederle Antitoxin Laboratories, New York.—*Journal A. M. A.*, Feb. 2, 1924.

Flumerin-H. W. and D.—Disodium-2-hydroxymercurifluorescein. The disodium salt of 2-hydroxymercurifluorescein. Flumerin-H. W. and D., when injected intravenously, is tolerated by rabbits in doses containing from 8 to 20 times the amount of mercury present in the therapeutic dose of other mercurial drugs commonly used. When injected into rabbits with syphilitic lesions, the drug brings about resolution of the lesions without apparent injury to the kidney. When injected intravenously into man in doses of 3 mg. per Kg., flumerin has caused the disappearance of spirochetes from primary and secondary syphilitic lesions. Flumerin has brought about resolution of the lesions and in about one-half the cases changed a positive blood Wassermann reaction to negative. In tertiary syphilitic lesions resolution of the lesions with a disappearance of a positive Wassermann was brought about in a majority of cases treated. The dose of flumerin-H. W. and D. is from 0.002 to 0.005 Gm. per. Kg. of body weight injected intravenously in 2 per cent aqueous solution. The drug is marketed in tubes containing respectively 0.15 Gm., 0.20 Gm., 0.25 Gm. and 0.30 Gm. Hynson, Westcott and Dunning, Baltimore.—*Journal A. M. A.*, Feb. 9, 1924.

Epinephrine-Wilson.—A brand of epinephrine-N. N. R. Made from the suprarenal glad. For a discussion of the actions, uses and dosage of epinephrine, see New and Nonofficial Remedies, 1923, p. 112. Epinephrine-Wilson is marketed in the form of epinephrine powder-Wilson (vials containing epinephrine-Wilson, 1 grain) and epinephrine solution, 1:1,000-Wilson (containing epinephrine sulphite equivalent to 1 part epinephrine-Wilson in 1,000 parts of physiological solution of sodium chloride.) Wilson Laboratories, Chicago.—*Journal A. M. A.*, Feb 23, 1924.

PROPAGANDA FOR REFORM.

Immunization Against Typhoid.—Ordinarily typhoid vaccine is administered at intervals of seven days. It is said that if the interval is less than seven days, the immunity may be less than after longer intervals. It is asserted also that the maximum response follows when the intervals between the injections are lengthened to eighteen or twenty days. No definite statement can be made as to what the optimal intervals really are. Immunity after antityphoid inoculation is not absolute. Army medical officers express the opinion that immunity from inoculation begins to decline in from two to two and one-half years; but even after four and five years, the typhoid rate of inoculated troops has been estimated at about one-fourth that of uninoculated troops. *Journal A. M. A.*, Feb. 2, 1924, p. 411.)

Treatment of Lichen Planus—.Lichen planus can be usually successfully managed by the intramuscular injection of some preparation of mercury. Mercuric chlorid is commonly employed in a dosage of 0.015 gm. (one-quarter grain) twice weekly. A 1 per cent solution of this drug in physiologic sodium chlorid solution is prepared, and 15 drops injected at the first dose, 20 the second and subsequently 25 at each injection. From eight to sixteen injections are commonly sufficient to clear up the disorder. Local measures for relief of itching may be employed at the same time.—*Journal A. M. A.*, Feb. 2, 1924.

The Insulin Reserve.—It is highly probable, according to R. N. Wilder, that patients with the acute type of diabetes will in a few years lose all native tolerance for glucose, and become completely dependent on insulin. In such cases 37 units (old standard) of insulin may be required, and in some cases as much as 56 units a day. A partially diabetic patient may suddenly be converted into a totally diabetic patient by infection and, therefore, a month's supply of insulin should be kept on hand. Reginald Fitz and William P. Murphy state that there are two classes of diabetic patients: those to whom insulin is a luxury and those to whom it is a necessity. They hold that the wise physician will conserve the use of insulin to the cases of such diabetic patients as can dispense with it or use only small amounts and will hold it in reserve as an indispensable product, for the patients who require large amounts in order to secure definite results.—*Jour. A. M A.*, Feb. 9, 1924.

NEWS

Psychopathic Ward at Parkland Hospital.—A vote of thanks to the Dallas County-City Hospital Board for creating a psycopathic ward at Parkland Hospital was recently tendered at a meeting of the Board of Public Welfare, at the City Hall.—*Dallas News.*

New Hospital for Beaumont.—W. B. Dunlap, Jr., and James E. Ray, of Beaumont, announced recently that they expected to build a three-story hospital in that city in September, next. The building will be of stone, brick and reinforced concrete.—*San Antonio Light.*

Addition to Fort Worth Hospital.—An addition to the All Saint's Hospital which will cost approximate-

ly $150,000 will be erected at Magnolia and Eighth avenues, according to plans announced recently. Permit to close an alley in order that the building might be built was granted by the Board of City Commissioners.—*Dallas News.*

Training School Physician Appointed.—Dr. M. O. Parrish, a woman graduate of the Texas Medical College at Galveston was recently elected resident physician of the Girls' Training School at Gainesville and accepted the position. Dr. Parrish resided at Vernon, where she practiced many years. She succeeded Dr. Holt, also a woman physician, who resigned recently.—*Dallas News.*

The State Tuberculosis Sanatorium will soon have a new Woman's dormitory that will accommodate thirty patients, and also an addition to the library which will double the size of that building. The library addition will be a two-story structure 38x50 feet, and will provide an auditorium seating 500 people. The appropriation for the addition to the library is $14,000 and for the new Woman's dormitory, $25,000. These additions will increase the sanatorium's capacity to 355 patients. In 1925 a men's dormitory, costing $70,000, and accommodating 72 patients, will be built. The superintendent of the Sanatorium, Dr. J. B. McKnight, reports a waiting list at present of about 200, of which about 120 are women.

Vaccination of All Dogs in the city of Dallas is urged by Dr. L. B. Cooke, City Health Director. He points out that this should be done in order to check any epidemic of rabies that might arise. In this connection, Dr. J. T. Wilhite of the Pasteur Institute, Austin, says: "All worthless dogs should be killed, and only those of real value should be immunized where the rabies appear. * * * Some people will save such animals and permit their children and the children of others to be bitten and infected with a malady that means a horrible death. * * * If a dog is valuable, the owner should have the animal immunized. All other dogs should be killed. In that way the little children and the grown-ups will be saved from the terrible rabies."

Texas Association of Sanitarians.—The Executive Committee and Advisory Council of the Texas Association of Sanitarians, met in Austin, February 27. There were present, Dr. A. H. Flickwir, Houston, President; Mr. George Anderson, Tyler, First Vice-president; Dr. W. A. Buice, Waco, Second Vice-President; Mr. E. G. Eggert, Austin, Secretary; Dr. Malone Duggan. Austin, State Health Officer; Dr. C. E. Durham, Mr. V. M. Ehlers, Mr. A. C. Mitchell, Miss Bettylee Hampil, Dr. M. Garst, Dr. Robert A. Tate and Dr. W. W. Battle, all of Austin. Much important business was transacted at this session, including steps for affiliation with the American Public Health Association, and a council of state-wide social agencies. The next short school of instruction in sanitation will be held in Houston during November, and will last three days. Definite dates will be determined later.

Interstate Postgraduate Clinic Tour to Canada, British Isles and Paris is now being arranged, under the supervision of the Tri-State District Medical Association. The time for leaving will be the middle of May, 1925. The tour will consume two months time, and the cost of the round trip, including all clinic arrangements and admissions and all traveling expenses, except meals on Pullmans in America and tips on ocean steamer, will be less than $1,000. Clinics are being arranged in Dublin, Liverpool, Edinburgh, London, Paris and other points of clinical interest, and will be conducted by the leading clinicians of these cities. Sight-seeing programs will be arranged practically every day, including the most scenic parts of the countries visited, without extra cost. This tour is open to all members of the profession in good standing in their state societies and to their families and friends. Applications for reservations should be made as early as possible to Dr. William B. Peck, Managing-Director, Freeport, Illinois.

National Tuberculosis Association meets for the first time in the South, at Atlanta, Georgia, May 5-10, inclusive. The general schedule of the meetings is as follows: May 5 and 6, meeting of state and local tuberculosis executives, a special program being arranged; May 6, Spring meeting of the American Sanatorium Association (For details write to Dr. E. S. McSweeny, 15 Dey Street, New York City); May 7, opening meeting of the National Tuberculosis Association, Twentieth Annual Session, Dr. Livingston Farrand, President of Cornell University, presiding; May 7, 8, 9 and 10, Section meetings of the National Tuberculosis Association, grouped under clinical, pathological, nursing, sociological and advisory council sections; May 8, Annual meeting, National Conference, Tuberculosis Secretaries.

A rate of a fare and one-half from all parts of the country, has been arranged, the certificate plan being used.

In order that the necessary arrangements may be made, those planning to attend should notify the National Tuberculosis Association at the earliest possible date. The Hotel Ansley is headquarters for the annual meeting, and the Hotel Cecil is headquarters for the American Sanatorium Association. All meetings of the Association proper will be held in the Baptist Tabernacle, Corner Luckie and Cone streets.

SOCIETY NEWS

Bexar County Medical Society met February 21, with 40 members and 3 visitors present.

Dr. C. A. R. Campbell read a paper on "The Functions of the Spleen." The author, who for the past twenty years has been making a special study of malaria, has done some very original work on the value of the bat in eradicating the mosquito. In this study he noticed that the spleen of the bat was about four times larger, relatively, than the spleen of man. He conceived the idea that the bat had been given this enlarged spleen to counteract the ill effects of a diet composed largely of mosquitos, one variety of which, the anopheles, is usually infected with malaria. He believes that the spleen in man forms a harmone destructive to the plasmodium of malaria. Some excellent pictures were shown illustrating the sexual and asexual cycles of the malarial parasite. The paper was discussed by Drs. S. Burg, P. I. Nixon, R. H. Crockett, Dudley Jackson and R. E. Bowen. In closing the discussion, Dr. Campbell said that the gametes of malaria often persist in the blood and tissues of man for years, in spite of the most energetic treatment. He said that statistics show that there are 79,000,000 acres of land in the United States made useless by malaria, and that $300,000,000 is the tribute paid to malaria each year, in the United States, because of this one fact. In India, the mortality from malaria is 1,030,000, annually. The author believes that since man is exposed to this infection, nature has intended the spleen to counteract it. He cited the fact that the spleen at birth is of the same proportion to the body as it is in the adult.

Bexar County Medical Society met Feb. 28, with 60 members and 7 visitors present.

Dr. A. L. Lincecum, of the U. S. Veterans' Bureau, read a paper on "The Present Status of the Laws

Governing Public Health in Texas—With Suggestions for Their Improvement." He spoke of the great need in Texas for a realization on the part of the public of the extreme importance of public health measures. He hoped that his address would result in a demand for a new State Board of Health, to consist of nine members, one to be dropped every two years, to be appointed by the Governor from a list furnished by the Council on Public Health of the State Medical Association. All of the recognized specialties of medicine should be represented on such a board, and it should have the power to appoint the State Health Officer. At the present time, only three departments of the Board of Health are able to function properly, namely, Food and Drugs, Sanitary Engineering and Rural Sanitation. He said that there was not a single psychopathic hospital in the State, and quoted statistics which showed that there were 10,791 patients in the State Hospital for the Insane, and that there was an annual expenditure of $2,726,080 for maintenance, and for the construction of new buildings. This is a per capita expense of $262.35 per annum, which is a reasonable expense. Seven part-time physicians and one dentist are employed to care for the State prison population, the doctors receiving an average of $128.50 per month. There is one farm devoted to tuberculous prisoners, with an average population of 130. The Doctor deplored the fact that the funds appropriated are totally inadequate. He hoped that propaganda would be spread broadcast regarding this sad state of affairs. The paper was discussed by Dr. W. A. King, City Physician of San Antonio.

Dr. L. E. Evans of the Aetna Life Insurance Company, spoke on "The Relation of the Medical Profession to Insurance Companies." He gave the history of compensation insurance, and told of the losses which insurance companies constantly sustained in this field. He said that this question is in its infancy in Texas, where there are few industrial concerns as compared with the East, where 90 per cent of the population is engaged in industrial pursuits. Figures were quoted showing the enormous expenditures of insurance companies in compensation work. He said that 95 per cent of industrial accidents are due to inefficiency on the part of workmen. He deplored the fact that many hernias were operated upon and fees collected therefor, upon the claim that they were all traumatic, when such is not the case. He also mentioned other unjust claims made by doctors. He did not think that the physician should expect to receive the same fees for this class of work that he would from his best clientele.

Dr. Irving T. Cutter read a paper on "The Expectant Versus the Radical Treatment of Eclampsia." The discussion was opened by Dr. Minnie O'Brien. Drs. W. H. Hargis and R. E. Bowen discussed the paper further.

Dr. Lee Rice spoke of the work done by Graham and Cole of St. Louis, in *x*-ray examinations of the gall-bladder, using tetrabromphenolphthalein. He described a case in which Dr. W. H. Cade gave an intravenous injection of 5 grams of tetrabromphenolphthalein, and 1½ grams of calcium lactate in 350 cc. of water, following which he was able to take a series of radiograms, showing the lower border of the liver and gall-bladder, very beautifully.

Drs. Jack C. Cassity, Lee Rice and R. H. Crockett, were elected to membership in the society.

Bexar County Medical Society met March 6, 1924, with 50 members and 3 visitors present.

Dr. Lee Rice gave a review of a number of papers which he had heard read at the recent session of the Congress on Internal Medicine at St. Louis. These papers were as follows: "Thoracic Surgery," Dr. Evarts Graham; "Trigeminal Neuralgia," Dr. W. T. Coughlin; "Sinus Headaches," Dr. Greenfield Sluder; "Nicotine Poisoning," Dr. J. E. Thomas; "The Relation Between the Thyroid Gland and Hypophysis," Professor A. Beidl of Prague; "Gonorrheal Rheumatism," Dr. Ralph Kinsella; "Abdominal Signs and Symptoms of Heart Disease," Dr. Harlow Brooks; "The Cardiac Aspects of Hypertension in Cardio-Renal Disease," Dr. Ellsworth Smith; "Importance of Cardiac Tone in Heart Failure," Dr. P. T. Bohan; "Innocent Glycosuria," Dr. Albert Taussig. This review by Dr. Rice was discussed by Drs. P. A. Shafer, Homer T. Wilson and C. S. Venable.

Dr. Dudley Jackson reported the case of a man, aged 61, who nine years ago, while shaving, cut the skin over the right malar bone. This cut was followed by a vesicle filled with serum, and ultimately became a basal-celled carcinoma. Two and a half years ago he was treated with the *x*-ray, and one year ago with radium. On December 14, 1923, the entire mass was removed with a large soldering iron. The orbit was eviscerated and an extensive cautery dissection made of the antrum of Highmore. The patient had not complained of pain following the operation. Although he had been bedridden for five months, he had gained 20 pounds since the operation, and was able to walk up stairs.

Dr. Jackson called attention to the fact that basal-celled carcinoma is a local condition and extends by peripheral spreading, rather than by metastasis. With the squamous-celled type, a dissection of the glands of the neck would have been necessary. This report was discussed by Dr. R. H. Crockett.

A motion was passed by the society to the effect that inasmuch as the members had not known that they must read their papers before the society before they could be read before the State Association, the following should be permitted to read their papers by title: Dr. R. H. Crockett, "Deep *X*-Ray and Radium in Treatment of Malignancy;" Dr. John W. Ellis, "Keratoconus, with Presentation of Cases;" Drs. W. B. Russ and W. H. Cade, "Chronic Peptic Ulcers, with Lantern Slides;" Drs. Lee Rice and Marvin L. Graves, "Angina Pectoris;" Dr. J. A. McIntosh, "Proper Care of the Insane in Texas;" Drs. I. L. McGlasson and C. F. Lehman, "Skin Manifestations in Leukemia and Hodgkin's Disease," and Dr. S. T. Lowry, a paper the title of which will be named later.

Dallas County Medical Society met February 25, 1924, with 36 members present.

The meeting was called for the purpose of hearing the report of the Committee on Public Health and Legislation. Dr. C. M. Rosser, chairman of the committee, gave a report on what he considered was the attitude toward the Medical Practice Act, of the various candidates for Governor, Lieutenant-Governor and the Legislature. He outlined the plan of the campaign briefly. The subject was further discussed by Dr. T. J. Crowe, who urged the appointment of a committee to secure evidence of violations of the Medical Practice Act, in order that convictions might be obtained. The question was further discussed by Drs. John S. Turner, Geo. L. Carlisle, A. B. Small, M. S. Seely and W. W. Fowler.

Dallas County Medical Society met February 28, 1924, with 35 members present.

Dr. Julius McIver presented a Mexican patient with a skin eruption.

Dr. B. H. Griffin thought the eruption was a trade dermatitis. The case was discussed by Drs. C. C. Nash and R. R. Jackson.

Dr. B. H. Griffin read a paper on "Pityriasis Rosea," illustrated by lantern slides.

Dr. H. H. Winans read a paper on "The Use of Bacteriophage in Infection," which was discussed by Drs. F. H. Newton and B. H. Griffin.

Dallas County Medical Society met March 6, with 33 members present.

Dr. W. W. Looney read a paper on "The Anatomy of the Female Pelvic Floor, Relative to Laceration and Repair." This paper was discussed by Drs. F. A. Pierce and T. C. Gilbert.

Dr. H. Leslie Moore read a paper on "The Therapeutic Use of Blood in Infancy and Early Childhood, with an Easy Method of Transfusion," which was discussed by Dr. L. S. Thompson.

Dr. J. Guy Jones read a paper on "Glaucoma," which was discussed by Drs. H. B. Decherd and R. D. Daniel.

Dr. John S. Turner read a paper on "Alcoholic and Drug Addicts; the Legal Phase of Their Care," which was discussed by Drs. W. L. Robinson and T. C. Gilbert.

Dallas County Medical Society met March 13, with about 50 members present.

Dr. B. H. Griffin reported a case of alopecia universalis, which was discussed by Drs. Rosser and Shannon.

Dr. John O. McReynolds presented anatomical specimens showing the different sizes, colors and degrees of density of cataracts removed in the capsule. He also presented some cross-sections of eyes showing the iris, the zonula fibres and the lens in their anatomical positions.

Dr. Penn Riddle read a paper entitled, "Diagnosis and Treatment of Acute Intestinal Obstruction," which was discussed by Drs. Hall Shannon, C. C. Nash, J. B. Smoot, C. W. Flynn and T. C. Gilbert.

Dr. John R. Lehman read a paper entitled, "Pick's Disease, Calling Special Attention to a Valuable Antemortem Diagnostic Procedure," which was discussed by Drs. Geo. L. Carlisle and C. W. Flynn.

Dr. E. O. Rushing read a paper on the "Surgical Treatment of Goiter."

Drs. A. J. Schuett and J. Russell Smith,. were elected to membership.

Grayson County Medical Society met March 4, with the following members present: Drs. S. D. Moore, E. L. Seay, A. G. Sneed, J. D. Meador, J. M. Weems, H. T. Walker, F. F. Fowler, M. M. Morrison, A. W. Scheson, M. C. Murphy, E. W. Richardson, J. A. Rutledge, O. H. Miller and W. A. Lee. Dr. J. M. Slaughter of Van Alstyne was a visitor.

Dr. J. D. Meador read a paper entitled, "The Importance of Children's Teeth Having the Proper Care." He stated that the cause of defective teeth is improper diet and lack of cleanliness. Soft foods tend to produce caries. Candies are not injurious if the teeth are cleaned well afterwards. It is only in recent times that the laity has realized the importance of caring for the teeth of children.

Dr. A. W. Acheson read a paper on "Pneumonia." He stated that for the first two months in the year, Denison had a death rate from pneumonia of 33 per cent, which he stated reflected upon the modern methods of treatment. Some cases can be aborted by the early hypodermic injection of morphine. A large majority of the cases in this climate are complicated by malaria. Quinine dissolved in whiskey will appreciably diminish the death rate. Quinine in solid form will not be absorbed, and the intravenous injection of quinine is likely to cause sphacelation, abscess or occlusion of the vein.

The papers were discussed by Drs. Weems, Walker, Morrision, Murphy, Moore, Seay and Sneed.

Harris County Medical Society met February 23, with 54 members present.

The plan of President Dr. A. C. Scott, for organizing a "clinical unit" for the purpose of examining State prisoners, was adopted by the society.

A motion was passed by the society to the effect that the society endorses the Honorable Lynch Davidson for Governor of Texas, with the provision that the society does not presume to dictate how any of its individual members should vote.

By vote of the society, the plan of the educational and publicity campaign, as outlined by Dr. Chase at the meeting of January 26, was approved.

An amendment to the constitution and by-laws was adopted, separating the offices of secretary and treasurer, and Dr. J. C. Alexander was elected treasurer.

Dr. T. O. Woolley, director of hygiene in the Houston public schools, addressed the society on the subject of medical supervision of school children, stating that there has been opposition on the part of some members of the school-board to this very helpful practice.

Drs. Marshall Wallis and Wm. Henry Ross, were elected to membership in the society.

Navarro County Medical Society met in Corsicana, March 3, with 24 members in attendance.

The following papers were read and freely discussed: "Cystoscopy as an Aid to Diagnosis," Dr. T. O. Wills, Corsicana; "Influenza, Its Symptoms and Treatment," Dr. S. H. Burnett, Corsicana; "Diagnosis and Treatment of Syphilis of the Nervous System," Dr. W. K. Logsdon, Corsicana; "Treatment of Pneumonia," Dr. T. A. Miller, Corsicana.

Drs. P. S. Russell, J. C. McKean and R. E. Forrester, all of Corsicana, and Dr. W. C. Wier of Kerens, were elected to membership.

Tarrant County Medical Society met March 4, 1924, with 30 members present.

Dr. R. W. Moore reported two eye cases, in both of which the pathology was thought to be due to syphilis. One of these was that of a woman, 23 years of age, who had suffered from recurring attacks of luetic iritis, finally developing blindness in one eye. On examination, a thrombus of the central vein of the affected eye was found. After careful treatment, the vision finally returned in this eye. Dr. Moore that that it is a rare occurrence for the vision to return following a thrombus in the central rim of the eye. The cases were discussed by Dr. J. J. Richardson.

Dr. J. B. Shannon reported a case of an epithelial growth of the scalp, the growth resembling a horn. The growth was excised and did not return. The patient was so sensitive about this deformity that he would not allow the doctor to retain the specimen for examination.

Drs. Frank Sanders and L. A. Suggs, presented resolutions on the death of Dr. R. B. Sellers, which were adopted by a rising vote.

Dr. L. A. Suggs called for volunteers to deliver the U. S. Public Health lectures to the boys of the various city schools, and quite a number responded.

Dr. Jack E. Daly was elected to membership in the society.

Van Zandt County Medical Society met at Canton, March 7, with 13 members and one visitor present.

Dr. Ben B. Brandon of Edgewood, read a paper on "Malaria," which was discussed by Drs. M. L. Cox and R. L. Gray.

Dr. James R. Maxfield of Waco, read a paper on "Functional Conditions of the Stomach with Reference to *X*-ray Diagnosis," which was discussed by Drs. W. C. Hearin and V. Bascom Cozby.

Williamson County Personal.—Dr. B. A. Kirkpatrick and Miss Margie Thomson of Thrall, Texas,

were married at the First Methodist Church of Taylor, March 2, at 5:00 p. m.

The Panhandle District Medical Society met at Amarillo, March 17, 18 and 19, with more than 100 in attendance. The first day of the meeting was devoted to clinical work at the Saint Anthony's Sanitarium in the morning and at the Northwest Texas Hospital in the afternoon. The following program was rendered during the two succeeding days of the meeting: Invocation, Reverend E. B. Bowen, Pastor of St. Paul's Methodist Church, Amarillo; President's Annual Address, Dr. J. R. Wrather, Amarillo; "The Square Deal," Dr. J. M. Ballew, Memphis; "Carbon Monoxide Asphyxiation, with Report of Cases," Dr. Austin F. Leach, Wichita Falls; "Insulin," Dr. V. M. Longmire, Temple; "Evolution of Methods in Practice," Dr. J. F. Owens, Plainview; "Hemorrhagic Purpura" (lantern slides), Dr. H. Z. Griffin, Mayo Clinic, Rochester, Minnesota; "The Present status of Encephalitis," Dr. Louis K. Patton, Amarillo; "The Significance of Thyroid Disorders to the General Practitioner," Dr. Louis K. Patton, Amarillo;"Admonitions," Dr. L. V. Dawson, Canadian; "Plastic Surgery of the Pelvis and Perineum," Dr. Willis H. Flamm, Amarillo; "Immediate or Deferred Perineal Repair," Dr. Archie Cole, Pampa; "The Proper Care of the Expectant Mother," Dr. W. S. Miller, Estelline; "Dysmenorrhea," Dr. D. D. Cross, Wellington; "Postnatal Care," Dr. Wm. L. Baugh, Lubbock; "Standardized Hospitals from a Surgical View," Dr. T. D. Frizzell, Quanah; "Significance of Pain in the Upper Abdomen," Dr. W. W. Shortal, Dallas; "Insulin, Its Uses and Abuses," Dr. T. C. Terrell, Fort Worth; "Medical and Surgical Treatment of Peptic Ulcer," Dr. G. V. Brindley, Temple; "Diagnosis and Surgical Treatment of Goiter" (lantern slides), Dr. E. O. Rushing, Dallas; "The Selection and Preparation of Patients for Prostatectomy," (lantern slides), Dr. Frank S. Schoonover, Fort Worth; "Suprapubic Prostatectomy," Dr. A. I. Folsom, Dallas; "The Use of Radium at the Menopause," Dr. Everett Jones, Wichita Falls.

Tuesday noon, luncheon was served members and visitors at the Northwest Texas Hospital, and at 7:30 p. m. a banquet was given at the Harvey House, for members and their wives and friends. Wednesday noon, luncheon was served at the Amarillo Hotel, for members and the ladies in attendance.

The following officers were elected for the ensuing year: President, Dr. C. F. Wilson, Memphis; first vice-president, Dr. Archie Cole, Pampa; second vice-president, Dr. W. S. Miller, Estelline; censor, Dr. W. L. Baugh, Lubbock; legislative committee, Dr. J. C. Anderson, Plainview; secretary, Dr. J. J. Crume, Amarillo (re-elected).

The following section officers were elected for the next meeting, which will be held at Lubbock, the third Tuesday and Wednesday in September, 1924:

Medicine: Dr. J. F. Owens, Plainview, chairman; Dr. H. H. Latson, Amarillo, secretary.

Gynecology and Obstetrics: Dr. D. D. Cross, Wellington, chairman; Dr. L. V. Dawson, Canadian, secretary.

Surgery: Dr. W. H. Flamm, Amarillo, chairman; Dr. W. N. Wardlaw, Childress, secretary.

The Panhandle District Ladies' Auxiliary met during the time of the session of the Panhandle District Medical Society, March 17, 18 and 19, at the Amarillo Hotel, Amarillo. Tuesday morning, the 17th, was devoted to the registering of members and visitors, and at 3:00 p. m. a musicale and tea were given visiting ladies at the Country Club. Wednesday, at 10:00 a. m., a business meeting was held at the Auditorium. The afternoon was spent in a pleasant drive over the city, and a visit to the Northwest Texas Hospital.

CHANGES OF ADDRESS.

Dr. Chas. J. Koerth, from Legion to Sanatorium.
Dr. D. R. Woods, from Perrin to Weatherford.
Dr. Fred W. Standefer, from Valley Mills to Lubbock.
Dr. C. D. Lindley, from Mankins to Sweetwater.
Dr. J. B. Baldwin, from Dallas to Marshall.
Dr. E. M. Wood, from Marlin to Abilene.
Dr. T. D. Baxter, from Marlin to Chilton.
Dr. R. E. Utely, from Mercedes to Harlingen.
Dr. J. T. Holland, from Itasca to Three Rivers.

DEATHS

Dr. Hardy C. Black of Waco, died at his home, February 17, 1924, from apoplexy.

Dr. Black was born near Huntsville, Walker County, Texas, in 1858. He received his literary education at home and in Trinity University, Tehuacana, Texas. He graduated in medicine from Tulane University, New Orleans, in 1890, and served an internship in Charity Hospital, New Orleans, from 1888 to 1890. He located in Waco, Texas, in 1890, and remained there, in general practice, until the day of his death.

Dr. Black was married, April 24, 1890, to Miss Isabella Munroe of New Orleans, who survives him.

DR. H. C. BLACK.

He is also survived by one sister, Mrs. Ida Womack of Taylor, Texas.

Dr. Black was a Mason of high degree, and had been a member of his county medical society for over 30 years. His devotion to his friends in general and his medical friends in particular, was noteworthy, and his service to the medical organizations to which he belonged was of great value. He sought no advancement at the hands of his fellow members, but readily and without quibbling assumed the bur-

den of those offices and committee appointments to which he was elected or appointed, always discharging his duties efficiently and satisfactorily. His interest in the broader principles of health was marked. He served for a time as city health officer, which position he undoubtedly accepted because of the good he could do.

Dr. Black was noted for his sense of humor, particularly was he good at mimicking the distinctive brogue and personality of the Swede, with which race he had much to do in his lifetime. His story-telling capacity would have won him a place on the vaudeville stage without difficulty.

Dr. Black died, as he always hoped he would, in harness. He had returned to his home on a wintry night from a case of obstetrics, and evidently died as he alighted from his car. Speaking of his life, one of his associates had the following to say, which is a fit conclusion for a notice of this character: "No one has been so universally mourned for by the citizens and their fellow physicians as Dr. Black. He had not one single enemy that the writer has ever heard of. He was such an ideal citizen, such an ideal Christian, and such an ideal family physician of the older family type, that he never incited the hatred of anyone. No one ever heard him make a disparaging remark concerning any other physician. He entered the homes of the rich and the poor alike, the sympathetic friend and physician. No wintry blast in darkest night ever deterred him from visiting the poorest and most humble of his patients, in charity of need be. He had been for many years the family physician for many colored families, and those colored friends requested permission to attend his funeral. He was as modest and unassuming as a child. Although he was a devoted member of the Presbyterian Church, he never, like the Pharisee, boasted about his religion. Although he always enjoyed a good practice among some of the best citizens, he never accumulated a great fortune in the riches of this world, but died rich in the love of his fellowmen."

Dr. H. C. Dial of Dallas, formerly of Gilmer, Texas, died at the home of his daughter, Mrs. L. M. Richards of Dallas, February 19, 1924.

Dr. Dial was born in Pickens, Mississippi, August 20, 1855, and at an early age came to Texas with his parents. He was married to Miss Mattie Clementia Brown in 1880, to which union were born eight children, six of whom, together with his wife, survive him.

Dr. Dial received his degree in medicine from the Louisville Medical College in 1886, later doing post-graduate work in Chicago and New Orleans. He began practicing at Diana, Upshur County, Texas, also practiced in Hopkins and Hill Counties prior to going to Dallas, where he had lived but a few months. He was for many years a member of the Upshur County Medical Society, and stood high in his profession, in which he had been eminently successful. He was a member of the Baptist Church and a Mason. The following tribute is paid Dr. Dial by one who knew him intimately:

"The medical profession has lost a valuable member; the Baptist Church is not so strong as when he lived; the fraternal ties that bind us together as Masons are made weaker by his death; the State has lost a good citizen, one who ever stood for the best there is in government; the wife has lost a devoted husband; the six surviving children have suffered an irreparable loss in the death of their father, and all mankind has suffered in his passing from the stage of life."

Dr. Wm. Wallace Cunningham of Beaumont, died at his home, February 5, following a stroke of apoplexy.

Dr. Cunningham was born January 28, 1857, in El Dorado County, California, in the famous Feather River country. He received his degree in medicine from the Medical College of Ohio, Cincinnati, in 1884, and soon afterward began practicing at Columbus, Texas. He later located at Orange, Texas, where he practiced for three years prior to going to Beaumont, where he had practiced for the past thirty years. He was married to Miss Betty Morris White of Corrigan, Texas, December 13, 1888, and she, together with one son, Kenneth Wallace Cunningham of Tulsa,

DR. W. W. CUNNINGHAM.

Oklahoma, one daughter, Miss Lois, of Beaumont, two brothers and one sister, survive him.

Dr. Cunningham was one the directors of the executive board of the Beaumont Chapter of the American Red Cross during the late war, and did much good work in that connection. He was a member of the Masonic Lodge, by which order his funeral services were conducted at the cemetery, and he had been an active member of the Jefferson County Medical Society for many years.

Dr. Cunningham was highly esteemed by all with whom he came in contact. He rendered faithful and efficient service during the thirty years that he practiced in and near Beaumont, at times driving many miles into the country, often at night, in order to minister to those who were in need of his services.

Dr. H. L. Matthews of Dawson, died February 8, 1924, following a brief illness.

Dr. Matthews was born in Murry County, Tenn., November 19, 1865, and when five years of age moved with his parents to Texas. He began the study of medicine at the age of 16, receiving his degree from Vanderbilt University, Nashville, in 1886, soon after which, he began practicing at Spring Hill and Dawson, Texas, where he continued to practice until a short time before his death. Dr. Matthews was held in high esteem by the people of his community and

surrounding country, whom he had so long and faithfully served. He was a devoted member of the Cumberland Presbyterian Church of Dawson, from which church his funeral services were held. He was buried by the Masonic Lodge, of which order he was an esteemed member. He is survived by his wife, three daughters, five sons and three brothers.

Dr. R. B. Sellers died at his home in Fort Worth, February 27, 1924, from myocarditis.

Dr. Sellers, son of the Reverend Isaac and Eugenia Blanton Sellers, was born at LaGrange, Texas, December 28, 1866. His father, who is living, though at an advanced age, has been one of the most distinguished Baptist ministers of the State for many

DR. R. B. SELLERS.

years. His grandfather fought with Sam Houston in the war for Texas independence, and his mother was of a distinguished Virginia family.

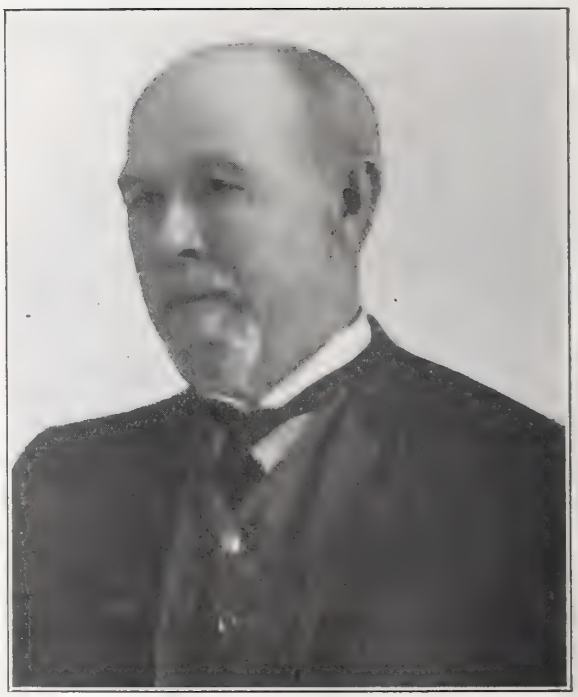
Dr. Sellers received his literary education in neighborhood schools and in Southwestern University at Georgetown, Texas. He graduated in medicine from the University of Pennsylvania, Philadelphia, in 1894.

Following his graduation in medicine, Dr. Sellers accepted an internship in St. Christopher's Hospital, Philadelphia, which he held for two years. During the summer of each year, he was attached to the Children's Seashore House of Atlantic City, N. J. In the Fall of 1896 he located in Waco, Texas, associating himself in general practice with Dr. Marvin L. Graves. In 1898, his health becoming bad, he removed to Comanche, where he practiced until 1901, at which time removing to San Antonio, and again associating himself with Dr. Graves, this time in the Southwestern Insane Asylum. He was also associated in this institution with Dr. Geo. H. Moody. At the termination of the Sayer's administration, Dr. Sellers again located in Comanche, where he practiced for a few months, returning to Waco. His health again failing him, he again removed to Comanche, where he remained in general practice until 1909, when he entered the New York Eye and Ear Infirmary. He also took a special course in nose and throat work in St. Bartholomew's Hospital. He served a year on the staff of the New York Eye and Ear Infirmary, at the conclusion of which, in 1910, he removed to Fort Worth, where he entered the practice of his specialty, in association with Dr. E. D. Capps. He continued in this special field until the end came, in the meantime devoting much of his time to brain diagnoses. He was married in 1896, to Miss Maria Speight of Waco, who survives him.

Dr. Sellers was considered by his associates as a devoted and distinguished physician. He was of genial disposition and well liked not alone by his associates in the medical profession but among the laity as well. He had been for many years a consistent member of the State Medical Association, through several of its county societies, and had served on committees and in numerous places of trust. His last service was as chairman of the Section on Ophthalmology, Otology, Rhinology and Laryngology, at the annual session of the Association in El Paso, in 1922. His interest in organized medicine was such as to lead him to aspire to leadership in other than scientific matters, but his health would not permit the effort, which was always a matter of regret to him. He was a devoted member of the Baptist Church, and an enthusiastic member of the Kiwanis Club. He was buried in Waco.

Dr. George Sherbourne Sykes of Galveston, Texas, died at his home, March 7, 1924, following an extended illness.

Dr. Sykes was born February 8, 1847, in Repton, Derbyshire, England, the son of John Henry and



DR. GEORGE H. SYKES.

Jane Ordish Sykes. His father, who was Master of Languages and Mathematics in Repton College, died when Dr. Sykes was but four years of age. When twelve years of age Dr. Sykes became an apprentice in Musson's Pharmacy, Liverpool, and on finishing his apprenticeship, five years later, he became

pharmacist for the same firm, remaining with them until 1870, when he came to this country. He spent one year in Jersey City, following which he went to Galveston, and for seven years worked as pharmacist for Aschoff's Drug Store, of that city.

Dr. Sykes received his degree in medicine from the Texas Medical College and Hospital, Galveston, (later the Medical Department of the University of Texas) in 1880, immediately after which he went to Coleman, Texas, where he practiced for three years. He was married to Miss Margaret Anna Reardon of Waco, August 15, 1883, soon thereafter locating in Galveston, where he had since practiced, with the exception of the last few months preceding his death. He was a member of the Episcopalian Church, a Mason, and had been for many years a member of the Galveston County Medical Society. He is survived by his wife and the following children: Dr. E. M. Sykes of San Antonio; Mrs. W. C. Washington of Atlanta, Georgia; Mrs. W. E. Metzenthin of Denton, Texas, and Miss Celeste Sykes, Clarence Sykes and Mrs. G. W. N. Eggers, all of Galveston.

BOOK NOTES

Notes on Materia Medica, Pharmacology and Therapeutics for Dental Students and Practitioners. By Frank Coleman, M. C., L. R. C. P., M. R. C. S., L. D. S., Assistant Dental Surgeon, St. Bartholomew's Hospital; Dental Surgeon, Royal Dental Hospital; Lecturer in Materia Medica to the London School of Dental Surgery (University of London). Fifth Edition. Cloth, 12mo., Pages 308. London: Henry Frowde and Hodder & Stoughton, The Lancet Building, 1 Bedford Street, Strand, W. C. 2. 1922.

Contents: "Definitions;" "Pharmacy;" "Methods of Administration of Drugs;" "Prescribing Drugs;" "Dosage of Drugs;" "Action of Drugs;" "Pharmacological Classification of Drugs;" "Drugs Used for Miscellaneous Purposes;" "Artificial Hyperaemia;" "Vaccine Therapy;" "Organo-Therapy;" "Electro-Therapy;" "Radio-Therapy," and "Dangerous Drugs Act." The author in his preface declares, "This book has been entirely rewritten."

Venereal Diseases in the American Expeditionary Forces. By George Walker, M. D., Late Colonel, Medical Corps, U. S. A. Cloth, Small 8vo., Pages 237. Medical Standard Book Company, Baltimore, Md. 1922.

The following is from the preface: "The object of this book is to record the experience of the American Expedition Forces in the control of venereal disease. It is intended to show the methods which really proved effective and those which were found to be futile, and we venture to hope that these records may be of value to the American and other armies."

On page 45 we are told that "Whenever the fundamental facts concerning sex relations and the danger of venereal diseases are rationally and humanely explained to soldiers, and in fact, I think, to all men, a great deal of good will be accomplished. No sensible person is going to fly in the face of a wholly unnecessary danger, and everyone instinctively has a certain regard for his own bodily welfare. * * * The chief trouble lies in the fact that most boys have been brought up to believe that sex relation is manly and necessary, and that venereal diseases are, on the whole, slight or of no material consequence."

The author declares that these considerations but show the "importance of having the right sort of men as officers cannot be overestimated, for upon them rests the destiny of the army." We wonder how many of those doctors accustomed to advising the young to indulge in sex relations for "hygiene" endorse the above sentiments, and so advised soldiers in France and elsewhere.

Duff House Papers. Edited by Edmund I. Spriggs, M. D., F. R. C. P. Volume I; 10″x7¼″. Cloth, Pages 387. Illustrated by 190 Figures, 6 Charts and 1 Colored Plate. Henry Frowde and Hodder & Stoughton, The Lancet Building, 1 Bedford Street, Strand, W. C. 2. 1923. $9.50.

The editor's preface informs us that "This volume contains both new and old matter. The new includes (1) a manual for the use of diabetic patients, and (2) a detailed account of the *x*-ray technique employed at Duff House for examination of the alimentary canal. These small treatises and two other new articles occupy 160 out of 380 pages.

"The old matter consists of a selection of the papers issued from Duff House from its opening in September, 1913, to the present time. * * * and more than two-thirds of the book has been written in the last two years. * * * It is hoped that it may be of service to the medical profession."

The list of contributors includes the names of Conran, Ferguson, Gompertz, Grigor, Ledingham, Leigh, Long, Marnoch, Marxer, Pickering, Spriggs, Watson and Weir (A. B.), all of Great Britain, and the table of contents shows a collection of able papers.

The book constitutes a learned study of the subjects discussed, and it will abundantly recompense the most careful perusal. In the address of Dr. Spriggs on "Surprises in Diagnosis," the first of these papers, one studies the mistaken diagnoses in a vast scope of varied affections occurring in the cases referred to The Duff House. Other papers are of equal value.

Hygiene of Women and Children. By Janet E. Lane-Clayton, M. D., D. Sc. (Lond.); Dean and Lecturer on Hygiene in the Household and Social Science Department, King's College for Women; Formerly Medical Inspector Under Government Board. Crown Octavo, Cloth, Illustrated, Pages 354. Henry Frowde and Hodder & Stoughton, The Lancet Building, 1 and 2 Bedford Street, Strand, W. C. 2. $5.00.

The author says: "The life of a nation is closely linked up with the position occupied by the life of the home. The habits of the country depend in great measure upon it. If the home is, as it should be, a point of attraction for the family, the minds of the members of the family will turn towards it. If, on the other hand, the home conditions are not attractive, then the mind will turn towards other things."

The chapters deal with "The Home;" "General Amenities and the Value of a Garden;" "Fresh Air and Ventilation;" "General Personal Cleanliness;" "Clothing for Women;" "Exercise;" "Fatigue;" "Rest and Sleep;" "Beverages;" "The Choice of Foodstuffs;" "Hygiene of the Alimentary Canal;" "Milk: Its Composition, Production and Supply," and "The Bacteria in Milk."

Clinical Symptomatology of Internal Diseases. Part II, Generalized Pain. By Prof. Dr. Norbert Ortner, Vienna. Only Authorized Translation Into the English Language of the 2nd German Edition, by Francis J. Rebman, With an Introduction by Thomas Webster Edgar, M. D., New York. Cloth, small 8vo., pages 596. Printed in America. New York, Medical Art Agency.

This is the second part of the author's work on Generalized Pain, the first part having been favor-

ably noticed in the JOURNAL, Volume XVIII, Page 334. It deals with the significance and value of pain as a symptom, and analyzes the many pathological conditions to which it directs the attention of the medical attendant.

The author has specialized in this subject and may be depended upon. The translator has done his work in such plain and simple a style that an almost perfect system of inquiry is presented to the clinician, substituting for the verbose style of the German author a simple and easily assimilated English diction.

Almost every species of pain is discussed, as a glance at the Table of Contents will show: Pain in the Heart and in the Cardiac Region, Pains in the Sacrum, the Coccygeal Region, the Shoulder, the Back, the Neck, the Nape of the Neck, the Chest, the Extremities, Muscular Pains, Pains in the Bones, Articular Pains, Headache.

The text is printed on dull paper and in ten-point type, very readable and clear. The publishers have done well and the subscriber will get what he is needing for his library.

Nursing and Nursing Education in the United States. A Report of the Committee for the Study of Nursing Education, C. E. A. Winslow, Dr. P. H., Chairman, and Josephine Goldmark, Secretary, with an able corps of collaborators, physicians and registered nurses, and two untitled. Cloth, 8vo. pages 583. The MacMillan Company, New York, 1923.

This is another of the Rockefeller Foundation Reports. It was initiated in December, 1918, by a call for a conference of persons interested in development of public health, at which conference various phases of public health nursing were discussed "and a committee of seven was appointed to study the questions raised and to prepare a definite proposal for a course of training for public health nurses." The investigation was financed by the Foundation, and the following persons were chosen as this committee: Miss Mary Beard, Boston; Dr. H. M. Biggs, New York; Miss Annie W. Goodrich, New York; Miss M. A. Nutting, New York; Miss Lillian Wald, New York; Dr. William H. Welch, Baltimore; Professor C. E. A. Winslow, New Haven.

It is the opinion of the committee that nurses should be better educated. They should have a basic science course before entering upon the study of nursing. A knowledge of anatomy, physiology, bacteriology and chemistry should be had preceding instruction in disease.

Some statistics are taken from the 1920 census. There were 300,000 nurses, male and female. About 150,000 were trained and registered, an increase from 1910 to 1920 of 83 per cent. Of these, 11,000 are engaged in public health nursing, 11,000 in institutions, and over 120,000 in private nursing. The committee estimates a need of 50,000 trained and registered nurses for the public health service alone, and points out some of the sources of the diplomas in the hands of utterly inefficient people who pose as trained nurses. One instance is of "a much advertised, so-called 8-weeks' course given free by * * * Board of Health (except for a $5.00 'diploma')."

Undoubtedly, the nursing profession (trained and registered) is as efficient in its legitimate field as the medical profession is in its field; but in public health nursing there is no fixed standard of authority for the individual nurses who operates, frequently, either under the direction of an uninformed lay committee, or on her own initiative, often interfering with the private practice of competent and honorable physicians. In our own practice, a sick child, in fairly good quarters, the family poor but not indigent, was carried to a place controlled by an organization, without either our knowledge or consent. The "visiting" nurse had said the child needed better medical attention. Certainly, such persons, before being turned loose as public nurses, should be taught not to meddle with or obstruct the work of physicians who are likely to be quite capable of rendering full service to the sick. On another occasion, a woman patient with gonorrhoea was informed by a nurse that she did not have to pay a doctor for medical service, that her organization had a doctor who would treat her free—at public expense. This doctor "examined" this woman and told her she would not get well without an "operation." She was paying us for her treatments, and got well without an operation.

As the investigations resulting in the report under review began directly after the World War, and while much of this kind of procedure was still going on, the investigators were deeply impressed with the need, not only of higher education for nurses, but a stricter trial of personal fitness as to mental balance, judgment, temperament and common sense, before admitting students to nursing courses.

This book is most important. It is worthy of close study by those interested in the subject dealt with. Because of financial assistance by the Foundation, the publishers are able to place a moderate price on the book.

A Treatise of Glaucoma. By Robert Henry Elliott, M. D., B. S. (Lond.), Sc. D. (Edin.), F. R. C. S. (Eng.); Lieutenant Colonel, I. M. S. (Retired); Late Superintendent of the Government Ophthalmic Hospital, Madras; Late Professor of Ophthalmology, Medical College, Madras, etc., etc. Second Edition. Cloth. 8vo, pages 656, with 213 Illustrations and Frontispiece. Henry Frowde and Hodder & Stoughton. The Lancet Building, 1 Bedford Street, Strand, W. C. 2, London.

The author has been busy with the literature showing advancement in this branch for the past four years, and has brought his book up-to-date. He has altered its title and given a more ambitious scope. His experience and knowledge of the subject is much enhanced by his work in India, both as teacher and clinical practician, and his book is of value to specialists in this field.

Collected Papers from the Washington University School of Medicine. Volume I. 1923. Cloth, 8vo., Pages 1079. C. V. Mosby Company, St. Louis. 1923. $12.00.

This is declared in the preface to be "the first of a series of annuals which will be published under this title." It represents the scientific "work done in The Barnes and St. Louis Children's Hospital dispensaries and laboratories of the School of Medicine and the Barnard Free Skin and Cancer Hospital."

The table of contents is too bulky for repetition, but a sample from the first division, under the name of Dr. George Dock, will indicate something of its scope; "The Social Trend in Medicine;" "A Visit to a Chiropractic School;" "Focal Infection in Arthritis."

Dr. Dock's description of the chiropractic school and its equipment is very interesting. Regular physicians should not fail to peruse this story. Those who do not care to buy this valuable book can find the paper on the social trend in medicine in *The Journal of the American Medical Association*, June 31, 1920, Vol. lxxiv, pages 293-297.

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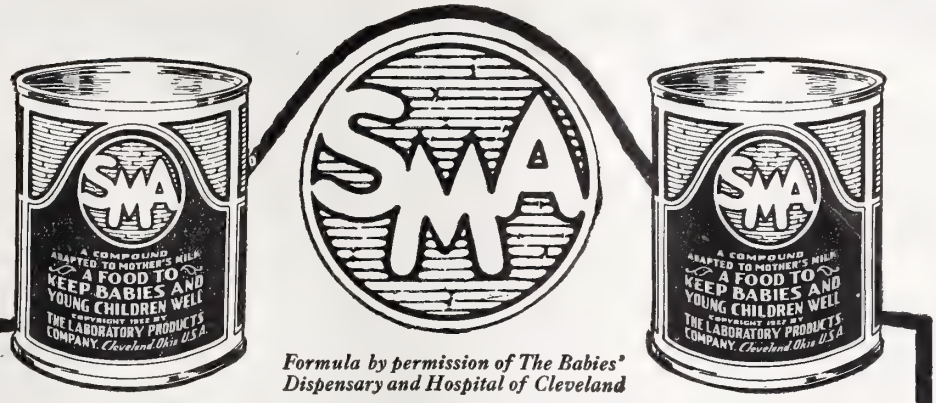
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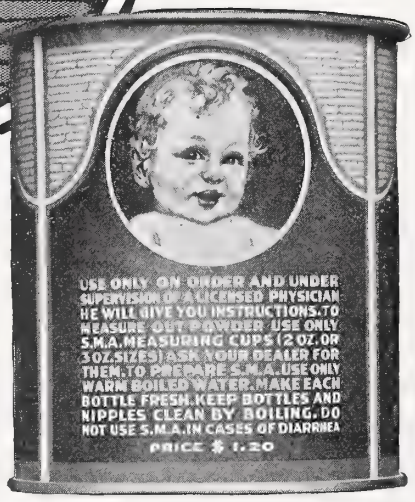
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Ample grounds beautifully landscaped.

Thousands

of physicians have found S.M.A. helpful in their problem of feeding infants deprived of breast milk, since *most infants do exceedingly well on it.*

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Medical Director

CALVIN B. WITTER, M.D.
Roentgenologist

EDWIN D. WARD, M.D.
Assistant Medical Director

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Over 300%

MORE than three times as much S.M.A. was prescribed in 1923 as in 1922. We believe that the physician who has used it will understand the reason, for he is already aware of the assistance which S. M. A. has given him in his own practice, and he will see in this increase convincing evidence that many other physicians are also obtaining exceptional nutritional results with S. M. A.

From 1915 to 1920 S. M. A. was used only in The Babies' Dispensary and Hospital of Cleveland. In January, 1920 it was made available to all Cleveland physicians. In November, 1921, its distribution was extended so that every physician in the country might obtain it for his little patients. From the time that S. M. A. was first offered to the medical profession, there has been a steady increase in the number of physicians using it, and in the volume prescribed by them.

S. M. A. is a food for infants deprived of breast milk, or who require nourishment in addition to what the mother can supply.

Requires only the addition of boiled water to prepare. Needs no modification or change for normal infants.

Prevents rickets and spasmophilia. Promotes normal growth and development.

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What is S. M. A.?

S. M. A. is an adaptation to breast milk which resembles breast milk both physically and chemically.

S. M. A. in addition to giving excellent nutritional results in most cases, also prevents nutritional disturbances such as rickets and spasmophilia.

S. M. A. requires no modification or change for normal infants. As the infant grows older the quantity is merely increased.

S. M. A. requires only the addition of boiled water to prepare.

(Orange juice, of course, should be given the infant fed on S. M. A., just as it is the present practice to give it to breast-fed infants.)

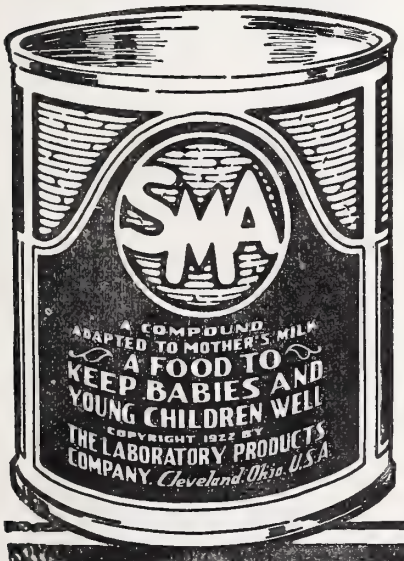
Why was S. M. A. developed?

Because there is a real need for an adaptation to breast milk which will give satisfactory nutritional results in the great majority of cases, which includes the preventive factors, and which is, at the same time, so simple to prepare that the physician can rely on the mother to follow his directions accurately.

How is it possible to feed S. M. A. to infants from birth to twelve months of age without modification or change?

The answer to this question sounds the keynote of the success which thousands of physicians are having with S. M. A. It is not necessary to modify S. M. A., for *the same reason that it is not necessary to modify breast milk:*—for S. M. A. resembles breast milk not only in its protein, carbohydrate and salt content, but also *in the character of the fat.* Since the very young infant can tolerate the fat, as well as the other essential constituents in S. M. A., it is possible to give this food in *the same strength,* to normal infants *from birth to twelve months of age.*

As the infant grows older, therefore, it is only necessary to increase the *amount* of S. M. A.



Samples and literature to physicians on request.

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THE LABORATORY PRODUCTS CO.
Cleveland, Ohio

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(Formerly The Temple Sanitarium)

TEMPLE, TEXAS

135 BEDS—80 NURSES

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Dr. M. W. Sherwood	Surgery	Dr. J. B. Johnson	Roentgenology
Dr. G. V. Brindley	Surgery	Dr. W. J. McLean	Pathology
Dr. A. C. Scott, Jr.	Surgery and Pathology	Dr. A. E. von Tobel	Pathology
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Dr. T. F. Bunkley	Medicine	Miss Grace Baze	Superintendent of Nurses
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KING'S DAUGHTERS' HOSPITAL

TEMPLE, TEXAS

Wishes to announce the installation of high voltage, deep therapy apparatus in connection with their already complete diagnostic x-ray laboratory. Dr. M. L. Chapman, who is in charge of this department, has had twenty years' experience in x-ray work.

The Hospital has for the past several years kept an adequate amount of radium at the disposal of the staff for the treatment of those cases where this form of therapy seemed to be indicated:

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